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THE REPORT OF THE PRESIDENT*

J. A. O'HARA, M. D.
NEW ORLEANS

It is a signal distinction in the professional life of any doctor to have served as president of his State Medical Society. I am grateful for the honor and implied confidence in me and, particularly, do I appreciate the opportunity afforded for closer contact with our membership with the resulting clearer understanding of their needs, problems and aims.

Never had I so thoroughly realized the close fraternal relationship existing among our physicians as I did during the past year. At the same time, too, I was impressed with the fact that this very fraternal spirit should engender among us always an even broader comprehension of the other's problems and burdens with a kindlier measure of toleration.

It is my conviction that the surest way to promote such a relationship and so enjoy the highest type of benefits from professional and social companionship is through our medical organizations. The personal contact at the meetings, serving together on committees, hearing and participating in papers and discussions presented by colleagues as well as taking part in the varied activities, all promote a keener interest in, and a truer knowledge of, one another in accordance with the ethics and high morale of the profession. Membership brings a feeling of security and protection; we need our professional organizations such as the American Medical Association, State Medical Society and District and Parish groups to police the profession against quackery and venality.

From time immemorial, the doctor has undergone definite educational discipline which has qualified him for this brotherhood, and for the continued study, growth and service imposed upon him by his pledge even after he leaves medical school. At all times there has existed a medical code and whether this code originated in classic Greece, medieval China or modern America, the import has been much the same in the ethical principles set forth.

Medicine throughout the ages has been on the alert for scientific discoveries which could be utilized for the protection and promotion of the public health. The step between the acceptance of a scientific discovery and its utilization for the general good of all mankind is but a short interval. Our present day knowledge and present day progress would be much more restricted were this not so.

Science has done much, but the manner in which the service is rendered plays a part equally important as the remedial agent itself. The greatest medical teachers of all countries, of all times, have instilled into the hearts and minds of their students that the truly successful doctor is the one whose objective is to maintain the true relationship between the one endeavoring to heal and the one to be healed and whose goal is to be a factor in the community as well as among the individuals served. Upon the widespread education of the people, to a large extent, depends the future of medi-

*Presidential address read before the sixtieth annual meeting of the Louisiana State Medical Society, April 25, 1939.

cine. It is incumbent upon us, then, to conduct our professional lives, as our personal affairs, so as to render our unconscious influences a potent force that we may be worthy of our heritage.

When I became your President, I had thought, planned and dreamed of what I might do to have it said of me "Well done, thou good and faithful servant." As I stood on the platform last April, stimulated and determined as I was to meet the responsibility of service imposed on every President, three hundred and sixty-five days—a year—seemed long as I looked forward to accomplishing the things we planned. But as I look backward today, that same year has been so very, very short to crowd in even a few of the goals I had visioned.

In keeping with the custom, I now submit a report of my stewardship and while I wish there were more to record, it has been only with your help and your encouragement that we have traveled that far.

When I came into office, I pledged that one of my first efforts would be to have every eligible doctor in Louisiana a member of the State Medical Society. To that end, shortly after the annual meeting, a letter was mailed to every eligible nonmember in the State emphasizing the benefits from membership and this was followed by personal contacts. After a short period, follow-up letters were sent to those who had not responded to the first appeal and, again, personal contacts were made. In New Orleans, all prospective members were invited to a dinner when membership was discussed. As a result of this campaign, 115 new members have been enrolled during the past year. This is gratifying and I trust that those who have escaped our net will be brought in during the coming months. The actual increase in membership and the greater interest awakened, I am convinced, more than justified the financial cost involved.

On October 11, 1938, the officers, members of the Executive Committee and several others, met with representatives of the Farm Security Administration in the office of the State Medical Society, New Orleans. The "Medical Care Program for the Farm Security Administration Families" and the "Memorandum of Understanding between the Physicians of . . . Parish and the Farm Security Administration" presented by Dr. R. C. Williams, Medical Director, were discussed in detail and every phase of the plan considered. As a result of the conference, the basic principles involved being satisfactory, Dr. Williams as Medical Director of the Farm Security Administration (or his representatives) was "authorized to approach the parish medical societies in the furtherance of the proposed medical care plans for Farm Security Administration families in Louisiana." It was further stipulated, however, that each society accepting the proposition, refer the plans to the Executive Committee or to the President of the State Medical Society for approval, before final adoption.

It was my desire and purpose to visit every district society, but conditions over which I had no control precluded this pleasure, which I keenly regret. On several occasions, my plans had to be changed at the last minute. I was privileged, however, to meet with the Fifth District Society at Monroe, when, in addition to a splendid program, many pertinent questions of local interest were discussed. It was my pleasure, too, to attend a meeting at Covington and participate in the program. I am very grateful to the officers and members of both of these groups for the many courtesies extended to me.

During the session of the 1938 Legislature, I appeared before the various committees considering proposed bills affecting doctors. In each case, we were successful in having undesired legislation die in committee and only desired laws go through.

Because of the vital importance to the medical profession in general, the State Medical Society was fortunate in having several representatives present at the Special Meeting of the House of Delegates of the American Medical Association, held in Chicago, last October. I shall not comment on the happenings, however, as the Journal carried full accounts, as you know,

and I trust they were carefully read. In this connection, I should like to add that information gathered while on a recent visit to Washington, showed that the Federal Government, through the U. S. Public Health Service, is bending all of its efforts in trying to assist the medical profession (in all of its ramifications) to hold the practice of medicine in the high brackets, in order to help to maintain the dignity and financial status of the doctors and, at the same time, to assist them in giving to their patients the highest type of service that science and money can provide, which is so badly needed by those who are sick and in distress.

Favorable comments have been forthcoming concerning the six refresher courses in pediatrics which have been given since our last meeting. These courses were practical and comprehensive and the splendid cooperation accorded by the local profession, committees and Councilors in this program is sincerely appreciated. In this connection, I look forward to the time when it may be possible to offer refresher courses in certain specialties such as pediatrics, obstetrics, the venereal diseases, and so on, in the medical centers, particularly for the doctors in the rural and outlying sections of the state.

Recognizing and appreciating the distinct value of the New Orleans Graduate Medical Assembly, all possible cooperation was extended to perpetuate this endeavor. I am very happy to say that the Third Assembly more than justified its place in the medical and scientific field.

In referring to the events of the past twelve months, none stands out more significantly, nor with more personal gratification, than the harmonious spirit which has existed within our ranks and my cordial official relationship with officers, committees and the membership at large. Dr. P. T. Talbot, Secretary-Treasurer, and his two excellent assistants, Miss Annie Mae Shoemaker and Miss Odile Simpson, stand in a class by themselves. They have been a tower of strength, anticipating by every wish and in every way justifying the confidence and appreciation of the Society.

RECOMMENDATIONS

In the interest of further progress, I recommend that:

1. Members take full advantage of the official Journal which is not only the medium of disseminating medical and scientific knowledge and information pertaining to the activities of the State Medical Society but also discusses problems which affect the entire membership. The Journal brings to the door of every individual doctor, matters about which he might not otherwise know and about which he cannot afford to remain uninformed. The addition of a staff of corresponding editors in the various parishes has proved very effective.

2. Each councilor continue his activities as a committee of one to make a survey of the physician-power of his respective district and try to organize or reorganize medical societies therein.

3. Refresher courses in pediatrics, or other subjects, be continued and extended where practicable.

4. All encouragement should be given the Woman's Auxiliary and that this organization be drafted into service when needed.

The Louisiana State Medical Society is keenly alive to the essentials upon which are predicated an abounding future for medicine. Alert initiative, considerate thought and vitalized action with the one hundred per cent cooperation of every individual member, will insure for our Society an enviable place among the medical organizations of the country. Too, the Society will become more of a force united for the general good by improving the future of medicine for the profession and for the public. The progress and very life of this Society ultimately comes to depend on those who put their shoulders to the wheel to maintain that solidarity of interests which is so necessary for the conservation of the ideals of our profession.

With a clear eye, an open mind and vision to plan, may we pledge our wholehearted assistance in the preservation of those principles and goals for which our predecessors have fought so tenaciously to establish.

THE DOCTOR IN COURT*

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A doctor is called upon from time to time to testify in court. The evidence which he gives may fall under one of the two classifications of medical testimony: It may be factual or it may be expert. Factual testimony has to do with the relation of the doctor to his patient's condition. It is based entirely upon facts and is completely independent of opinion. Once a doctor ventures an opinion on any medical data presented to him, his testimony falls under the second classification of medical testimony, that is, it becomes expert testimony. A doctor is required by law to give factual testimony when called upon to do so; but he appears in a case as an expert witness by choice. Perhaps the difference between expert and factual testimony can best be illustrated by the following experience which I had in court:

I was subpoenaed in reference to an injury sustained by a patient who had been treated in the Surgical Clinic at Touro. I brought to court with me the clinic records of the case. After I had been sworn in, the attorney questioned me as follows:

Q. Doctor, can you identify the plaintiff as Mr. X?

A. I am only able to say that he is the man whose name appears on the card which I have in my hand.

(I could not swear that he was the individual named, as the only evidence I had that that was his name was the fact that he had given that name to someone at the Touro clinic and it was recorded there at the time of his visit.) It is always important that we do not make statements which someone else might easily contradict. Certainly if another witness had stated that this man's name was not the same as that on the card, I could not have proved on the witness stand that his name was the same as that given.

I was next asked if the x-ray picture which was presented to me was that of the plaintiff. I replied that I could only state that the x-ray picture had the number which corresponded to the number on the card in my hand. I could not swear that that was the picture of the individual in question as I had not taken it, nor had I seen the picture taken.

The picture was that of fractured ribs. The attorney then asked me if the x-ray picture was that of a fracture of the eighth rib. I replied that I was unable to answer that question. The attorney wished to know why. I stated that since the picture did not show the first and the twelfth ribs, I was unable to say whether the rib shown was the eighth.

At this point the attorney wanted to know if the patient could continue to have pain for so long a time after the accident. I replied that the answer to such a question would constitute expert testimony. At this juncture, the attorney resorted to the judge and said: "I cannot understand the difference which the doctor makes between ordinary testimony and expert testimony." Of course, the judge permitted me to explain to the attorney that expert testimony involved the expression of an opinion, while ordinary testimony was based on facts alone. I added that since I had been called into court in this particular case in the capacity of a factual witness, and not as an expert, I was obligated to testify on facts only and was not required to answer any question involving an opinion.

Since all court witnesses are sworn before testifying, the testimony given must be absolutely accurate. For this reason memory is undependable. If the testimony is to be of value, it must be based on recorded facts; and by that I mean facts recorded at the very time the incident under question occurred, and not later.

In order to do justice to himself and to protect himself fully, a doctor should see that his records are as minute as possible. Omissions open the way to future disparagement of testimony. Well kept records, on the other hand, prevent the sustaining of many unfair claims. As an illustration of this, I might cite the following case:

I was subpoenaed as a witness in the case of a colored maid whose claim for damages was based on interference with the function of one of her knees, following a supposed injury while in the employ of someone as a maid. Before court convened, I asked who had subpoenaed me and was told by the maid's attorney that he had. He asked me if I recognized this patient. I answered that I did not know her name but did recognize the woman as one on whom I had operated at the Touro Surgical Clinic for housemaid's knee. The attorney then told me that ever since the injury and the subsequent operation, the maid had had

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difficulty in using her knee. I at once pointed out to the attorney that if the colored maid would show her other knee, he would see that it was in the same condition as her bad knee was previous to the operation; that is, it also was afflicted with housemaid's knee or prepatella bursitis. At this point the attorney said: "Doctor, we will not need your testimony in this case." In other words, this particular individual, knowing that the maid's suit was based on claims which could not be sustained by fact, did not want me to testify.

Had I gone on the witness stand, I would have undoubtedly proved that the housemaid's knee was not caused by the injury the maid had received, with the result that their case would have been thrown out of court. The completeness of the records made it possible for me to make the statement I did about the maid's other knee.

THE DOCTOR AS AN EXPERT WITNESS

The position of the expert witness is entirely different from that of the factual one. It devolves upon the expert to help formulate the opinions of judges and jurors on technical medical questions. It is his duty to read into the records of the case a summary of the latest human knowledge on the medical subject at issue. His testimony should be unbiased, and only those doctors qualified by experience and by a knowledge of the medical literature on the subject should testify as experts. So vast is the range of subjects which require medical testimony, that no man should consider himself qualified to give an opinion in more than a very limited field of medicine.

Unfortunately, medical testimony has not in the past carried as much weight in court as we should like, for the reason that doctors who are unprepared to do so often appear in the capacity of experts—to the detriment of both justice and the medical profession; and for the reason also that doctors have often given testimony which was colored by their sympathy for the side which they represented at the trial. It would be ideal if medical experts could be chosen by the court as jurors are, that is, if they could be disinterested parties, testifying for the court and not for either side; if they were men chosen because of their general reputation for ability in the subject, and not because they held opinions which were favorable to one side or the other.

Opinions on medical questions change from day to day as new light is thrown on the questions by additional scientific investigation. For this reason medical opinions cannot be established by precedent, as many questions of law are. Time alters opinions on scientific questions, whereas opinions on moral conduct remain largely unchanged. Expert medical testimony of yesterday is often not applicable today.

In an editorial on the death of Justice Cordoza, the "New Orleans Item" stated: "To him legal principle was something to apply to the change of status of social and economic life, for the perpetuation of justice."

This is the principle that should be applied to expert testimony.

As an example of the present tendency of parties to a suit to choose only medical experts who are favorable to their cause, I might recount an experience which I had recently: Within the past year a suit for damages was filed against a hotel company in another state by a plaintiff suffering from cancer. This man claimed that his cancer had developed following a single trauma which was caused by the negligence of the defendant hotel company. He alleged that he was injured by a piece of glass which fell from a transom and struck him on the head, cutting his head; and that an epithelioma which had developed about eighteen months after the accident was due to that single injury.

The attorney for the defendant approached me before the trial and said: "What we want to know is: Could this cut alone have caused an epithelioma to develop?" Immediately my reply was: "Does anybody know the cause of epithelioma? Does anybody know whether this man had anything there or not at the time of the accident?" I then asked the attorney just what they wanted of me, and he replied: "We want to use you as a witness." Whereupon I said to him: "The whole story lies in the answer to one question; and that question is: 'Doctor, do you think that a single trauma causes epithelioma?'"

After discussing the details of the case with him, I made it clear to him that the only basis on which I would consent to testify would be if I were given an opportunity to study the plaintiff's statements and also the medical literature on the question involved. Further, that I would insist on giving absolutely unbiased testimony. I explained to him that I knew he was eager to have me testify in his favor, and that this was perfectly legitimate from his point of view since he wished to win his case; but that if I went on the witness stand, I would do so as a disinterested party, expressing my honest, unbiased, uncolored opinion—whether it was detrimental to him or not; and that I would not appear as an expert for or against either side in the case. He replied hurriedly: "That is exactly what we want." . . . But let me add, he did not call me.

The example just given brings up an interesting point for discussion: Did the cancer in question really result from a single trauma? What would be your reply?

I considered this question to be of such importance to the medical profession from a medico-legal standpoint that I felt the urge to investigate the recent literature on the subject, even though I was not called upon to testify in the case just cited. I did so; and I now propose to digress a moment from the subject of my paper in order to give you a brief report on the results of my investigation, so that others might not have to do as much research as I have done to obtain authoritative opinions on this matter.

Within recent years a great deal has been written on this point by pathologists—experimentalists and geneticists, as well as surgeons. Among the most notable expressions on the subject are those of Maud Slye and James Ewing, and a particularly excellent review of the field has been made by Leila Charlton Knox.

For the purpose of this paper, brief abstracts from papers written by each one of these will be included. Maud Slye[1] says: "The conclusion seems unavoidable that in the cases herein described (experimental animals) hereditary predispositions and external gross traumas were the interrelated causes of the occurrence of cancers. . ."

It is James Ewing's[2] opinion that: "The secret of malignancy seems still to remain enshrouded in the obscurities of intracellular life, where it will probably long remain."

Ewing[3] goes on to say: "Many recent fundamental contributions on the causation of tumors have an important bearing on the relation of trauma to cancer. When nothing definite was known about the effective exciting factors in mammary cancer it was permissible to adopt the traumatic theory in cases in which the clinical evidence pointed strongly that way. Now that it is known that one can produce mammary cancers in mice almost at will by over-stimulation with theelin, whereas no one has succeeded in producing this disease by trauma, the traumatic origin becomes much less acceptable.

"Cancer has now been produced experimentally by many agents, but always under specific conditions that are not related to trauma, and the experimental data reveal the fact that the genesis of cancer requires quite peculiar factors which have not been found in the results of simple trauma. . . .

"At one time it seemed necessary to assume that many cases of giant cell tumor of bone resulted from injury, but since it has appeared that this disease is related to a functional disturbance of the parathyroid gland, and that giant cell tumors may be produced by hyperparathyroidism and cured by extirpation of tumors of the parathyroid glands, it becomes unnecessary to introduce the idea of trauma into the etiology of giant cell tumors.

"The application of di-benzanthracene to experimental animals produces cancer and sarcoma promptly and almost invariably, whereas the innumerable efforts to cause tumor by simple trauma have always failed. This contrast cannot fail to impress thoughtful observers with the fact that when one deals with real cancerigenic agents the results are definite, positive and even startling, and that the negative results

of traumatization indicate that a trauma does not possess the essential elements of a cancerigenic agent.

"While it is now generally agreed that a single trauma never produces a malignant tumor in previously normal tissue, this principle may not greatly reduce the medicolegal importance of an injury as an indirect cause of a tumor. When a lacerated wound of the skin with implantation of foreign material fails to heal, becomes infected and suppurates for weeks or months, and cancer finally appears in the edges, it is clear that the cancer would not have occurred without the trauma. . . ."

Ewing says that several definite criteria have been widely recognized as essential for the acceptance of traumatic origin of a tumor:

"ESSENTIAL CRITERIA"

"1. *Authenticity and Adequacy of the Trauma*: That an injury occurred is generally accepted by the courts on the statement of the patient, but for strictly scientific purposes such evidence must be regarded as inadequate for the reasons previously explained." (Every student of psychology knows that the human mind is strongly influenced by preconceived notions and by self-interests. Statements with reference to the injury can at times be discounted because of the prejudiced interests of the patients themselves.) "The statement of the patient must be corroborated by eye witnesses or, better, by circumstantial evidence, such as the immediate discovery of signs of injury by an intelligent layman or physician. . . .

"The trauma must be adequate to produce some alteration in the structure of the tissue, and the least effect it can give is the rupture of small blood vessels, with hemorrhage and discoloration of the skin. It should also be capable of exciting some regenerative process; otherwise it is difficult to conceive how it can excite excessive and abnormal proliferation of cells. . . .

"Clean surgical incisions never lead to cancer. The retention of a blood clot or of fragments of necrosing tissue provides conditions in which abnormal reactions conceivably may occur. . . .

"2. *Previous Integrity of the Wounded Parts*: While courts and juries may accept the patient's statement that the injured tissue was previously entirely normal, the positive demonstration that a tumor is of traumatic origin requires proof rather than assumption. . . . Usually the only proof of the previous integrity of the site is the evidence of a competent medical examination. Adherence to this criterion would exclude many of the cases of supposedly traumatic cancer. . . . So strong is the evidence against the purely traumatic origin of most cancers that one must assume the attitude that a malignant growth claimed to be traumatic arises not in normal but in previously altered tissues."

Ewing continues: "Traumas reveal more malignant tumors than they cause. Whenever an apparently trivial injury is said to have produced some peculiar and exaggerated effect, and a tumor is later discovered, it should raise the suspicion that the tumor antedated the injury.

"3. *Origin of Tumor at Exact Point of Injury*: Any reasonable theory of the traumatic origin of a tumor must assume that the tumor develops in tissues altered in structure by the trauma and not by some mild transmitted force leading to intangible nutritional disturbances of which one knows nothing. Such alteration in structure can be produced only at the exact point of injury or within narrow limits. A blow on the knee cannot be assumed to be connected with a tumor arising in the hip, and an injury of the nipple cannot be responsible for a cancer arising in the upper outer quadrant of the breast.

"4. *Reasonable Time Limit Between Injury and Appearance of Tumors*: . . . the longer the interval the less certainly may the tumor be referred to the trauma."

Ewing further states with reference to trauma as a precipitating factor in causation of cancer: "The great rarity of authentic cases of traumatic cancer, the uniform failure to produce a disease experimentally by simple trauma and the highly

specific nature of known cancerigenic agents, have led pathologists to conclude that a single trauma is itself incapable of producing a malignant tumor, and that it must always act in combination with equally or more important factors."

Of cancer of the skin, Ewing writes: "Cancer has often followed wounds of the skin, but with rare exceptions the connection between the trauma and the cancer is indirect. The wounds that are followed by cancer of the skin are nearly always complicated; the long interval of several years permits other factors to enter, so that it is difficult to determine whether the cancer is chiefly referable to the injury or mainly and essentially to the subsequent and complicating events."

In summarizing his paper Ewing says: "Present data confirm the view long since adopted by pathologists that a single trauma of normal tissues is incapable of producing a malignant tumor. This principle may not greatly alter the possible importance of the single trauma as an indirect but essential and determining cause of certain tumors. . . .

"The chief task in determining the relation of a trauma to any given tumor is that of laborious fact-finding. The great majority of reports of tumors alleged to be traumatic would never have appeared in the literature if the facts had been competently gathered and evaluated. The laws of psychology demand that the statements of patients and eye witnesses should be corroborated, the actual and probable immediate effects of the injury attested by competent persons, preferably physicians, and the entire case studied from a broad clinical and pathologic point of view. . . .

"The interpretation of compensation laws should recognize that a trauma is never the sole cause of a cancer and is often only a subordinate, although determining, cause, that the probability of coincidence is great, that aggravation by injury is rare and difficult to establish, and that many difficulties and uncertainties will surround this subject for a long time to come. . ."

Leila Charlton Knox[4] says: "Speaking generally, the opinion of almost all pathologists and experimental students of cancer is that a single trauma cannot cause a malignant neoplasm. . . ."

Commenting on giving testimony in this type of case, Knox says: ". . . It may be said that the general trend of medical thought has probably been influenced in the last five years, perhaps unconsciously, by the legal and compensation verdicts which have been returned. On the other hand, medicine has contributed a considerable number of useful observations, but has offered no definitive answer to the question of the relationship of trauma and tumor. Probably the most valuable work which can be done in this field is to educate the medical profession toward more complete factual case histories in which personal opinions of an inexpert type either as regards the interpretation of clinical observations, radiographs, or pathological slides should take second place, and in each of these fields consultations from a number of experienced persons should be applied to an understanding of the individual problem. . . . the writer believes that no valid evidence has been offered since 1929 to change the opinion expressed in a more extensive survey of this subject published at that time that as yet no causal relationship has been established between a single trauma to healthy tissues and the appearance of a malignant neoplasm."

From the foregoing it would seem that the burden of proof is on anyone who would make a definite statement that single trauma is the primary cause of a malignant tumor.

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To return once again to the case which prompted me to look into the question of cancer being caused by a single trauma: The plaintiff got a judgment of $25,000 against the hotel company. I do not know the basis on which the verdict was rendered.

The literature just quoted does not support the theory that a cancer can be caused by a single trauma. This case demonstrates how easily unwarranted, unjusti-

fiable damages can be awarded a litigant through the failure of medical witnesses to give medical evidence based on a careful review of modern scientific data.

INDUSTRIAL ACCIDENTS AS COURT CASES

A surgeon should consider every industrial accident as a potential medico-legal problem, for his testimony will often be necessary to determine the amount of disability involved. For this reason, it is essential that he should keep accurate records, both for positive and negative findings. It is certain to be disconcerting to a surgeon to have the opposing side present evidence which may not actually have to do with the accident in question, but which cannot be refuted properly for the reason that a contradiction would be based purely on the surgeon's memory and not on definite statements in his record. Because of too brief records or carelessly kept records, the plaintiff may, and often does, get an unjustly awarded verdict. It is similarly disconcerting to the surgeon who has failed to have necessary pictures taken, if subsequently pictures presented by the opposition prove contributory negligence on his part. On the other hand, careful records, indicating that certain disabilities did not originally exist, will defeat many an unjust claim.

There is one symptom which the surgeon cannot discount, and that is pain. One cannot assuredly prove that an individual has no pain. This point is demonstrated in an instance which I shall now cite:

A laborer had sustained an injury to his knee. The man was operated on and a dislocated internal semilunar cartilage removed. Several months later he continued to complain of pain and weakness in the knee. Accordingly the insurance company was advised to settle the case, as it was hard to estimate how much of the man's complaint was really weakness and how much was financial distress. The insurance adjuster insisted on being told the percentage of disability present; and, since the surgeon in question could not conscientiously state this percentage of disability, an "expert", who claimed that he could give it, was called.

The case went to court. The operating surgeon was subpoenaed. At the trial, his testimony consisted of reading the facts of the case from the records. Later the "expert" was called to the stand. He testified that the patient had no disability; that the man suffered from nothing which would not be cured by the payment of his claim. At this juncture the plaintiff's attorney asked the "expert" if his opinion was based on his own examination; to which the "expert" replied that it was. Then the defendant's attorney asked the doctor if it were not a fact that he had only had the patient walk across the office, without even having the patient remove his trousers. The doctor was compelled to answer in the affirmative, thus admitting the carelessness of his examination and the superficial evidence on which his statement was based. The court awarded damages to the patient.

This is but another unhappy illustration of why medical expert testimony is so often discredited in court. In this instance a doctor qualified as an expert in a field foreign to his primary interests; and to make matters worse, his statements were based on a superficial examination. One need not go far afield to find the lessons which we should gain from such instances.

MALPRACTICE SUITS

A doctor is often called into court for reasons other than to give factual or expert testimony. I refer now to the testimony given in cases which come under the classification of malpractice suits; that is, suits which are filed against a doctor for either real or alleged causes of action.

Every doctor should be protected from suits of this kind by some form of liability insurance. Fortunately, in addition to insurance of this type, a doctor is supported by the protection which the State Medical Society throws around the profession as a whole in such cases.

Some of the experiences which one has in connection with this type of suit are rather interesting. For the sake of this particular presentation, I shall mention three of my own:

1. A personal case in which I was threatened with a malpractice suit.

2. An instance in which I was called as an expert witness in the case of a doctor who was sued for malpractice.

3. A case in which my advice was asked in reference to a threatened suit against a doctor.

In each of these instances, certain valuable points were brought out. Concerning

the instance in which I myself was threatened with a damage suit, the following are the circumstances:

I received a letter from a legal firm in the City of New Orleans, advising me to call at their office at my earliest convenience to make suitable amends "because as a result of my unskillful management of the young woman's broken arms, she was unable to earn a living for herself and her infant son."

The only recognition I took of this letter was to notify my insurance company that I had been threatened with a suit. Then I proceeded to forget the whole thing.

About two weeks later the telephone in my office rang. My secretary advised me that the lawyer who had written me would like to talk to me on the telephone. I asked her to tell him that I would not talk to him over the phone, but would be glad to entertain him in my office. He agreed to come up. I suggested to my secretary that when he came she should go into the next room and take down everything which was said by both of us in our conversation.

Immediately upon his arrival at my office, the attorney said: "Doctor, I wish to apologize, for I pulled a bonehead play." I answered that I appreciated fully the fact that he had pulled a bonehead play, but that I had intended to let him go ahead and sue me; and that I had expected to make it very unpleasant for him from the witness stand. He seemed very much astonished at my attitude and he asked me what I meant by that. I replied that he had threatened to sue me for unskillful management of the young lady's broken arms; but that I was going to state from the witness stand that the young lady did not have and had not had broken arms. At this point, the lawyer interrupted me to ask what the young lady did have. I replied that I did not intend to place myself in a position to be sued for either violation of confidence or for libel by answering that question. (As a matter of fact, the young lady had bilateral gonorrheal wrist joints; and the infant son in question was an illegitimate child.) I heard no more of this particular damage suit.

A doctor is often called upon to testify as an expert when a fellow practitioner is the defendant in a malpractice suit. I believe that when this happens, the doctor so called is obligated to do several things before he agrees to take the witness stand in his colleague's defense.

In the first place, he should familiarize himself thoroughly with all the circumstances surrounding the case, both from the standpoint of its management and the standpoint of its outcome. He should be extremely careful to investigate thoroughly the claims made in the plaintiff's statement, as well as the denials made by the defendant doctor, so that he will be able to judge whether or not he is justified in supporting his colleague; and if he finds, after investigating all of the evidence painstakingly, that his fellow practitioner is really liable, he should not, in justice, appear as an expert in his defense. In such instances he should rather try to persuade the doctor at fault to compromise the suit, instead of permitting it to come to trial; stressing the fact that a doctor's conviction in a suit of this kind would do irreparable injury to his reputation and would ruin his future in the community.

THE CROSS-EXAMINATION

I cannot stress too strongly the importance of thorough investigation of both sides of the case by the doctor who is asked to give expert testimony; for the doctor who is to testify must realize that he is going to be questioned not only by his colleague's lawyer, who will naturally be kindly disposed, but also by the lawyer for the other side, who will do everything in his power to tear down the expert's testimony in order to obtain a judgment in favor of his own client. For this reason, the doctor who is testifying must have at his command facts which cannot with ease be proved to be incorrect.

A doctor must remain cool when giving testimony. He should make his statements in clear and simple language, and, whenever it is necessary to resort to the use of medical terms, he should make every effort to explain the import of the terms, so that the jury and the judge may not wrongly feel that technical nomenclature is being employed deliberately to confuse them and prevent them from evaluating the meaning of what is being said. The simpler, the less obscure the testimony is made, the better it will be for all concerned.

When an expert first takes the witness stand, there is usually a long hypothetical question put to him. In order to prepare himself properly to answer such a question, it is wise if possible for him to have the question made available to him before he

is put on the stand, as it is manifestly impossible for anyone to answer at a moment's notice a question which may be six, eight, or ten typewritten pages in length. Such hypothetical questions should be studied carefully, and a definite opinion on them arrived at before the expert attempts to testify.

One of the most interesting experiences I have ever had was a controversy over such a hypothetical question. After answering the question for the defendant's attorney, and after my examination by him was over, the plaintiff's attorney began his cross-examination.

Let me say right here that it adds to the prestige of an attorney if he can confuse a witness; if he can get him to contradict himself; or if he can get him excited about an issue. Confusion, contradictions and excitement always lead to trouble for the witness. Crafty efforts are made by the opposing attorney to force contradictory statements into the records. To illustrate this, I should like to quote briefly some of the cross-examination to which I was subjected by the plaintiff's attorney in the case just mentioned. In connection with the hypothetical question which I had just answered, the attorney asked:

Q. How long after you had read it did you make up your mind that you could answer every question in there "yes"?

A. Mr. X, when I felt satisfied that I could honestly answer it. I didn't make up my mind in minutes or hours. I made up my mind when I felt that it was my honest conviction.

Q. Well, you read the questions Saturday?

A. And I have read them since.

Q. Did you, on your first reading, decide that you could answer them all affirmatively.

A. I believe I did; but I have read them and re-read them, so that I could be sure of my opinion.

Q. Then I may assume that you read the questions and then and there decided that you could answer them "yes"; that later than that you read them over again and adhered to your first impression?

A. I think your presumption is just a little too much.

Q. Well, what about it is too much?

A. For the simple reason that in anything I do, I don't believe that the first reading of anything is sufficient. After reading law the first time, any law case for the first time, I don't think you have come to all conclusions as to exactly what your attitude is going to be, and that is exactly my point. In practicing surgery and in coming to conclusions as to what I feel I should do, it is my continuous practice to provide myself with as much information with reference to a particular situation as I can, whether it requires one reading or three readings.

Q. Then may we assume that you did not make up your mind on your first reading that you could answer the question "yes"?

A. I think it is a gratuitous assumption, sir, and I don't think it has anything to do with whether I answer it one way or another, as long as I have answered it; and we will both take it for granted that each of us is a gentleman.

Q. It is rather important to us to know whether your mental attitude toward that question was one of ready acceptance—

A. My mental attitude is—

Q. Let me finish my question, Doctor—was one of ready, easy approval of what was done—whether you did not at once jump to the conclusion or conclude that everything in that question should be answered "yes", but that you pondered over it and finally determined that you could.

A. The best answer that I can give to that is, you have known me for a good many years and you ought to have the impression that I am not one of those who jump hurriedly at conclusions. I weigh matters definitely before I come to a conclusion, and when I do, it is a conviction with me, sir.

Q. But at any rate, if you had answered my question "yes" or "no", your answer would have been "no", wouldn't it?

A. What is your question that I would have answered "no"?

Q. You answered it without knowing what it was, Doctor?

A. I am asking you to repeat any question I have answered up to the present time; and I have told you twice, Mr. X, that I don't answer questions without having understood them, but I am not prepared for you to try and trip me up by saying, "Did you answer it 'yes' or 'no'," without knowing what it was.

Q. That was only a pleasantry, Doctor.

A. I understand, but when it comes to questions of my honor, sir, let us not indulge in pleasantries.

Q. Your honor is not involved here at all.

A. Well, it is when it comes to a question of whether I answer questions without giving thought to them; and we are too good friends for you to impugn my honor.

Q. Your honor is not involved here. It is above that. But we are going to differ a whole lot on some of the conclusions that you have come to, and, I hope, amicably.

Aside from trying to confuse a witness, or trying to force him to make contradictory statements, it is a common practice for

an attorney to present a volume to the expert on the witness stand and say, as an attorney said to me:

Q. You know the work of W. C. on fractures and dislocations, don't you?

A. I am very familiar with it. I happen to know Wilson in person.

Q. A top man in America on certain fractures, isn't he?

A. A top man, but not the top man; and that book is an old one.

The object of presenting such questions is to try to get the witness to agree that the work in question is authoritative in character; and if he does, the attorney then proceeds—as in this case—to quote from this work and use it as the basis for his side of the story. The attorney attempted to do this to me, but in reply to his questions about this book, I answered: "I am perfectly familiar with it and familiar with a good deal of improvement, and that a good many other people disagree with the opinions expressed."

Whenever one disagrees with an authority quoted by an attorney, he must be prepared to give his own references; and, if necessary, to quote from them. It is well to be prepared for this by having as much of the literature as possible available in the court room at the time of the trial, so that it may be introduced as direct rebuttal to questions asked. If one is not familiar with contemporary thought on the subject at issue, evidence may be introduced and accepted by the court as authoritative from volumes which are long since antiquated and no longer relied on as authoritative by the profession today. Therefore, in giving testimony one should be certain that he has at his finger tips as nearly as possible the latest expression of the authorities whose opinions are valued highly for purposes of rebuttal. You have not the time to go and read up after you are on the witness stand. The time to prepare for giving your testimony is before you accept the responsibility of appearing in court as an expert witness. Preparation beforehand is as essential here as it is in any other undertaking which might be assumed by a man in the course of his professional activity.

Very often if an attorney cannot confuse a witness or prove him to be ignorant, he will make an effort to mark him as an egotist. His success in this endeavor will certainly not redound to the credit of the expert witness, nor will it reflect credit on the cause. It is well for the medical expert to be wary, always on his guard. The following questions, put to me when I was testifying in defense of a colleague in a malpractice suit which was defended by the Louisiana State Medical Society, will illustrate this point. The attorney said:

Q. Doctor, can you tell us who selects the experts to appear in these cases, the defense of which is undertaken by the legal defense committee of the Louisiana State Medical Society?

A. The only thing I know is what you have heard in the by-laws which were read to you, and I think they are perfectly clear; that it is a committee of the Louisiana State Medical Society. And further I might add they probably select men that they think are qualified to enlighten people, and not to confuse them.

Q. They select the most brilliant, able, outstanding, eminent members of the profession, don't they, doctor?

A. If I were to answer that question in the affirmative, you would say that I was a consummate egotist, and I will not answer it that way.

Abstracts from the records and cross-examinations in this particular case are typical of the usual case in which the medical expert testifies; and they demonstrate clearly the difficulties which confront him from various angles. This particular case was won by the doctor defendant, and I might add that the young doctor was as happy over his victory as anybody I have ever seen. For a great load had been taken off his shoulders; and his opportunity to practice in this community was restored, unhampered by the cloud which would have rested over him permanently had he not won this case.

We must not forget, however, that there are instances in which the doctor who is being sued is really at fault. One must always bear in mind the fallibility of human efforts and the possibility of something happening, even where the intentions are of the best, that will render the doctor liable. I believe that if doctors are perfectly honest in their contacts with their patients and if

they will utilize every bit of knowledge which can be brought to bear on their branch of medicine, the question of a doctor's liability in a given instance will not occur as often as it does now. Nevertheless, as I said above, cases in which a doctor is liable do come up; and, because they do, we must be ready to face them and to counsel the doctor, if our advice is asked, to compromise the case rather than let it come to trial.

I was successful recently in persuading a doctor to settle a claim against him out of court. The plaintiff was referred to me. After listening very carefully to her story and after examining the x-ray pictures on which she based her claim, I was convinced that the doctor was really at fault. I had a conversation with him. I told him it appeared to me that he was "in a tight position" and that my advice to him would be to compromise the suit if possible; and that I did not see how any medical testimony could be of service to him.

A few days after my conference with this doctor, I received word that the case had been settled out of court. I believe that a great deal of good was accomplished by this settlement. If the case had gone to court, much damage, far more than the amount involved, would have been done the doctor's reputation. In an instance of this kind, I believe that great benefit can be derived from proper advice to the doctor at fault, and amicable settlements can be made out of court.

SUMMARY

1. In court a doctor is called upon to defend himself or a fellow-practitioner. It is our duty so to conduct our practice that causes for justifiable malpractice suits will diminish in number.

2. In testifying one must not confuse factual testimony with expert testimony.

3. Either expert or factual testimony should be given in as simple language as possible.

4. We are called upon to give factual testimony. Adequate records will avoid much controversy and will aid the court in settling the problems at issue.

5. We are called upon to give expert testimony. In order that our testimony will aid justice it must be unbiased and the opinions expressed should be based on knowledge of the literature of the subject as well as on extensive personal experience.

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DISCUSSION

Dr. William P. Bradburn (New Orleans): Dr. Cohn and I feel very strongly on one point and that is that the doctor in court should at all times show firm adherence to the ethics of the medical profession, particularly as regards records of facts medical and their interpretation and presentation in true honest medical thought. Francis Bacon aptly states: "No pleasure is comparable to the standing upon the vantage ground of truth."

We must admit however that on some points there may be a variance of opinion equally backed by eminent authorities. But on certain medical truths there is a unanimity of opinion, and it is these facts which should not be distorted or half clothed so as to lead to faulty deductions by the court or the jury.

The object of all medical evidence before a court whether it be factual or expert, is for the purpose of establishing facts for judicial determination.

Whether it be the doctor in his own defense or in the defense of a fellow physician, or a statement of facts as regarding a patient he may have seen; whether he appears in that case as a lay witness or medical expert, careful notes at the time of consultation with follow up are quite important. Their use is allowable and most desirable. The doctor's attitude should be one of frankness and sincerity, backed by a firm conviction of his opinion, reinforced if necessary by expert medical authorities, avoiding at all times any suggestion of egotism. The answers to all questions should be in simple understandable language and if medical terms are necessary they should be definitely and clearly defined. In other words the expert should be so sold on his opinion, honestly and unbiasedly formed, that he can sell it to others. It is impossible, therefore, to conceive how a doctor could testify one way in one case and directly opposite in another, simply because he happens to be representing the plaintiff instead of the defendant. This is unfortunate, as it creates in the minds of attorneys either of two things, the lack of honesty in a medical witness or the absolute un-

certainty of medical thought, particularly as concerns basic facts. As a medical expert do not be too eager to answer a question until its full meaning is thoroughly clear. If the question be ambiguous do not hesitate to refuse to answer until it is so presented that the answer will be definite and not lead to a double interpretation, as this type of question is frequently presented. Again never answer a question, yes or no, where the yes or no needs an explanation to present fully the accepted exceptions.

One point to be borne in mind is the careless, or rather unthinking issuance of certificates or other written statements which you may be called upon later to defend; the statement itself being impossible of defense. These generally are given at the request of the patient or patient's family so that they may be used in obtaining a settlement, but remember all settlements are not made out of court.

Courtesy to the court and the attorneys for the plaintiff and the defendant should always be maintained, in spite of the fact that sometimes lack of courtesy is shown by the opposing attorney in his enthusiasm and desire to win his case, or at other times deliberately so in his effort to ruffle the witness. And in this upset equilibrium the doctor will lose his better judgment and in answering the subtle questions then put, will apparently contradict himself, and lead to faulty deductions or discredit himself as a witness. Frankly, the whole question of medical testimony, except factual, is in my mind not fair to present to a jury, not trained, or even familiar with medical facts, to decide a case where the basis of decision depends upon evaluation of medical testimony; and particularly so, where there is such divergence of opinions. In fact some of this testimony given by "experts" would be startling and even impossible of interpretation by the man medically trained.

The ideal would be in those cases where medical testimony is involved, particularly debatable points, to have such medical presentation decided by a group of physicians appointed by the court, to act as a medical jury. These men naturally must be unbiased and above criticism due to their honesty and experience. Their decision as to the medical findings would be final. This medical decision combined with the other testimony presented to the court, should form the basis of decision in the case. I think my idea is clear although very sketchily presented.

As a medical witness, factual or expert, as a man in general, nothing could be more appropriate at this point than the advise of Polonius to his son. Quote:

"This above all: to thine own self be true,
And it must follow, as the night the day,
Thou canst not then be false to any man."

Dr. Val H. Fuchs (New Orleans): A lot of things Dr. Cohn brought out are true, particularly in regard to malpractice suits against doctors. There is one little point in his talk that I would like to correct because some of the men present may get the wrong impression. Dr. Cohn mentioned that we should all be protected by malpractice insurance and that we are fortunate in being protected by the State Society. We are protected by the State Society only to the extent of being furnished medical defense, legal talent only. Some of the men throughout the state have the idea that they are also insured from a monetary standpoint. The State Society will furnish legal defense and nothing more.

Many of the cases that I saw during the six years I had charge of the medical defense were due to the fact that the doctors called in on the case usually passed some remark about the case which the patient took up and nine times out of ten those cases were entered as malpractice suits. Let me caution you, when going in to see these cases that you should be careful of what you tell the patient and what you say about the other man's work. I think many of our cases that come up before the Medical Defense Committee could be avoided if the physician called in after the patient has been seen by somebody else acts cautiously. Try to do to the other physician as you would have him do to you.

Dr. Roy B. Harrison (New Orleans): I have nothing to say except to add to what Dr. Fuchs just said. I have testified in a large per cent of the malpractice suits for the State Society in the past ten years and I believe that 80 per cent of these cases would have been avoided if the second man who saw the case had been more discreet about his remarks of the first fellow who saw the case. I believe we would not have one half of the cases if the second fellow would be a little more careful.

Dr. Isidore Cohn (In conclusion): One of the dangers is being unprepared when getting on the stand as an expert. The doctor who honestly presents facts should have no difficulty as a witness. When acting as an expert witness the doctor should present unbiased opinions which reflect the concensus of present day knowledge. Our function is to aid justice.

MEDICAL JURISPRUDENCE*

PAUL H. RINGER, M. D.
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Dr. John Glaister, Regius Professor of Forensic Medicine at the University of Glasgow and one of the outstanding modern

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authorities on the subject, states that medical jurisprudence, forensic medicine and legal medicine are synonymous and designate the science which correlates medical knowledge to the purposes of the law. It follows, necessarily, that the scope of medical jurisprudence is so vast as to prohibit its being in any way covered within the time limit for this presentation, for its ramifications include medical evidence, the duties of the medical examiner, the performance of autopsies, personal identity in its medico-legal bearings, identity of the dead, death in its medico-legal relations, wounds in their medico-legal significance, evidence of rape, lunacy in its medico-legal aspects, toxicology or the action of poisons and their postmortem identification, to mention but some of the many subdivisions of this large question. In order to present something which, I hope, will be of interest to a general audience, I have decided to limit my discussion to three phases:

1. Medical evidence.
2. The legal phases of psychiatry.
3. Psychiatry and criminology.

Most physicians are fearful of the courtroom and of the witness stand, and rightly so, for it is almost a truism that the medical man makes a poor witness; instances abound where a clever and brilliant cross-examiner has made a thoroughly competent practitioner look like a first-year medical student and a poor one at that. It is well for physicians to know something of forensic medicine, for more and more are they being called upon to testify in either civil or criminal courts. In these days, with the increase in automobile accidents, with the speeding up of transportation, reckless and drunken driving, high-powered cars and slippery roads, many more damage suits are on court calendars than in the "dear, dead days beyond recall," and in each of these the doctor is an important witness. Again, the prominent place taken by so-called "occupational diseases," especially those involving the respiratory system, such as asbestosis, silicosis and others, call for more and more expert testimony, so that the appearance of the doctor on the witness stand is on the up and up.

The medical profession and the legal profession appear at first sight to be very far apart—further apart than they should be, for, after all, medical men should be more sensitized than they are to a sister profession whose innate motives are as noble as their own. They should refrain from judging that profession by its unworthy shyster members, just as the law should not judge medicine by its black-leg doctors. To quote: "The physician, as a learned man, should take delight in the fascinating exhibitions of learning, brilliance, logic and common sense intricated and skillfully woven into the patterns of truth which are spread before us in the published reports of our great courts."

Dr. William G. Morgan, of Worcester, Massachusetts, who, in addition to his M. D. also holds the degree of LL. B., has this to say: "Who are doctors? They are members of our community who are granted, by law, the privilege of practicing medicine. Who may be granted this privilege? Those who are qualified by law. What is the practice of medicine? It comprises certain activities defined by law. How is the practice of medicine conducted? According to rules established by law. What is the relationship between the physician and his patient? It is a status defined by law. Can there be a doctor who isn't interested in law?" We have no issue with Dr. Morgan in the abstract. When it comes down to the concrete fact of a physician taking the stand in a civil or criminal suit, as a rule he wishes he were home and in bed.

The medical man has certain privileges and certain duties when testifying. When called as an ordinary witness, he is to testify only as to matters of fact: an operation performed, a person found dead, or a broken leg in an automobile accident. If, however, he is asked questions involving a matter of opinion, then he becomes an "expert" witness and has a right to refuse to reply unless and until his fee as expert witness has been arranged. These fees vary in different states. Needless to add,

the provident physician will see to it that the matter of fees as an expert is taken care of before the case comes to trial. It is an odd thing, and practically a paradox, that in stating his opinion, a physician on the witness stand cannot quote or refer to any medical authority, for the legal theory is that his opinion must be wholly unbiased and not supported by precedent. This is all the more to be wondered at when it is considered that if there is a profession rock-ribbed in invoking and citing the tradition of precedent, it is the legal profession. Of course, there is a way out—there always is—the testifying physician makes the opinions of the authorities that he has consulted his own, and everybody is happy.

It might be said, in passing, that the vast majority of malpractice suits have their origin in some casual remark made by a physician who sees the patient after he has been treated by some other practitioner for the particular condition for which the suit is brought. Phrases lightly uttered are apt to stimulate the injured man to seek financial redress, and words such as—"what a rotten job!"—"who butchered you?"—"I'd sue that quack"—uttered probably without thought of their possible results are often the starting point for legal proceedings against a man who did his best under the circumstances. To my colleagues, I say: "Verbum sap."

The medical man on the witness stand should, above all, cling to simplicity—in dress, in demeanor, and especially in language. The jury is not favorably impressed by style-plus clothes, a disposition to be jocose and to wisecrack, and a display of long and terrifying technical terms. The following amusing and illustrative anecdote comes from Judge Eugene O'Dunne, a member of the Supreme Bench of Baltimore. He says: "In a case (not under my immediate observation but one reported by me) the examination was as follows:

"*Lawyer*: Now, Doctor, in language as nearly popular as the subject will permit, will you please look at the jury and tell them what was the cause of this man's death?

"*Doctor*: You mean the proxima causa mortis?

"*Lawyer*: I don't know, Doctor, I will leave that to you.

"*Doctor*: Well, in plain language, he died of an edema of the brain that followed a cerebral thrombosis, or possibly embolism that followed, in turn, an arteriosclerosis, combined with the effect of a gangrenous cholecystitis.

"*Juror*: Well, I'll be God-damned!

"*The Court*: Ordinarily, I would fine a juror for saying anything like that in this courtroom, but I cannot in this instance justly impose such penalty upon you, sir, because this court was thinking exactly the same thing."

The physician on the stand must realize that he is there to instruct both judge and jury along lines with which they are not cognizant. Simplicity is the great essential of a good teacher. On the other hand, the physician, especially under cross-examination, finds himself confronted by a lawyer who has "read up" on the particular question at issue but whose knowledge is necessarily very limited and who is exceedingly desirous to extract positive "yes" or "no" answers from the witness—answers which, because of the physician's greater knowledge, it is often impossible to give.

It is here that one sees the fundamental difference between the standards of philosophy and ethics of law and those of medicine. The philosophy and ethics of law deal with the relationship between an individual guilty or not guilty of a crime, or one sane or insane, or one who feels that he has a grievance against another, and his legal adviser, whose duty is to exert every effort within the realms of honesty to secure a decision favorable to the life, liberty or property of his client; and since all traits of human nature enter into these legal conflicts, the lawyer can play upon these human characteristics and still remain ethical, provided he remains within the bounds of integrity.

The philosophy and ethics of medicine, however, have different standards. Physicians are trained in the art and science

of medicine and, therefore, are experts. There are certain facts in medicine that are based upon absolute truths. There are other facts in medicine that are controversial. Here opinions may differ because of a difference in interpretation of certain types, symptoms or tests, or a difference in judgment influenced by one's past experience with the particular problem. However, even here careful study, consultations with colleagues, judgments based upon probity and an unimpeachable adherence to the truth will bring the facts near to, or within, the bounds of absolute truth.

With these rather incompatible viewpoints and objectives, both of them thoroughly justified for each profession, it is not to be wondered at that doctor and lawyer frequently find themselves at loggerheads.

When we approach the question of the legal phases of psychiatry, we run into one of the morasses in which both professions are often bogged. To quote Dr. Abraham Myerson, of Boston: "The reason is obvious—most human and, therefore, most legal interactions are on the basis of the mentalities of the individuals concerned." However, here again we run up against absolute opposites in the philosophies of law and medicine. Law is essentially not concerned with etiology or cause. If a man is accused of committing a crime, law's primary interest is: "Did he or did he not do this deed?" Then again, law is not interested in diagnosis and does not care whether the individual involved in the crime has paresis, dementia precox or what not. In both cause and diagnosis medicine is vitally interested. Where both professions meet on common ground is that both are keenly concerned about results: that is, the impairment of mental capacities, as this bears on certain phases of responsibility and on certain phase of contractual capacity.

In the earlier days of our civilization, individuals guilty of various crimes were punished according to the sentence determined by the statute without regard to their mental condition. Gradually, as human relationships became softened, there developed the idea that there must be capacity to choose a line of conduct and to know the nature of an act before one could be punished. By the same token it became evident that the same punishments could not be meted out to children as were imposed upon adults for similar or analogous crimes. There also developed the knowledge that certain people were sick or irresponsible mentally (idiots, lunatics) and, therefore, could not be held answerable for their acts.

The law postulates that an individual has a free will and can make a choice as to the nature of the conduct he elects to pursue and believes, therefore, that only where there is disease of the will is there lack of responsibility. It also believes that normal individuals are able to know the consequences of their acts. It has accordingly built up its premises as to responsibility on two propositions:

1. Ability to choose.
2. Knowledge of consequences.

Dr. Myerson states: "The question of the responsibility of an individual rests on the famous McNaughton case, where the House of Lords sent to the Lord Chancellor certain questions as to the responsibility of a criminal. The answer came back that an individual to be responsible must know the difference between right and wrong, that is, he must be able to choose and discriminate on ethical grounds, and second, he must operate with a free will, that is, he must not be under the push of an irresistible impulse." These, then, are the limbs of our law:

1. Ability to know the difference between right and wrong.
2. Ability to resist an impulse.

This plain statement of the fundamentals of the law is all right as far as it goes, but it does not satisfy the researches of medicine. Ask any low-grade moron whether it is right or wrong to steal or to murder and he will at once give the right answer; but place that same individual under adverse or unfortunate circumstances, where he is incited by his associates to embark upon

such and such a course, and he will yield and proceed to steal or murder without being at all under the influence of an "irresistible impulse"; but simply giving way to forces that dominate him, to following the easiest way, to a desire to "get rich quick," or to any of a score of other urges. A true irresistible impulse (which, by the way, is quite incapable of definition save by repeating the same words in a different order, as "an impulse which cannot be resisted") is a very definite entity, rather rare, and, unless falsified as is often attempted in court, is almost self-evident upon presentation of the facts and emotions leading up to its release.

I am not enough of a psychiatrist to enter into any detailed discussion of this whole question, even did time permit. It is brought forward to show again the necessary divergence of the legal and medical aspects of a situation upon which both doctors and judges are daily asked to give opinions and pronounce judgments; cases involving the life, liberty and pursuit of happiness on the part of some members of our citizenry, and cases the disposition of which is all important in order that justice be done the accused and that society be protected from an enemy at large.

The capacity on the part of an individual to make a will is a question upon which the legal and the medical professions are often at variance. The physician involved does not have to be a psychiatrist; in fact, in most cases he is not, for the vast majority of instances of a questionable will appear in courts of law after the death of the testator. It is in these will battles that one sees exhibited in all its naked sordidness the cupidity of man. Testamentary capacity under the law involves three main factors:

1. Has the testator made the will of his own volition? He may be influenced to a legitimate degree, but it is unlawful to bring pressure in an undue way. (How anybody is going to decide this question is beyond me).

2. Did the testator know, in a general way, the nature and whereabouts of his property? He need not have known this in detail but he should have had some knowledge thereof.

3. Did the testator know the nature of the obligations he had toward those who would naturally be the recipients of his bounty, i. e., blood relations or those close to him by some natural relationship? The physician who has attended the deceased should be aware of the legal definition of "testamentary capacity," and should be prepared to state as succinctly and as definitely as possible his opinion as to the condition of his ex-patient at the time the will was executed.

I would like to cite a case which shows, I think, where the perspicacity of the court certainly outstripped that of the physicians, who definitely and rightly diagnosed the individual insane. It is an interesting example of an insane person acting with remarkable intuition, much as a sane person would.

"A man was at a state hospital for ten years—from 1922 to 1932. Then his father died, leaving over $200,000, and this was administered by a guardian. The man was taken out of the hospital and boarded in a neighboring city with an attendant in whose family he lived until he reached the age of seventy. At the age of sixty-eight he made a will, distributing his bounty mainly to the attendant, the attendant's wife and their child, and the rest to an aunt, to her son and to some first cousins. But he excluded his other aunt, his other first cousins, and like natural relatives, completely. He had been declared insane, was insane, had heard voices, 'God communicated with him.' He was a pleasant, harmless old fellow, somewhat untidy, and very fond of the attendant and his family. . . . The will was contested on the ground that the man was insane and without testamentary capacity. The question came up: Why did he exclude his cousins, aunts, etc.? The answer was that they had never visited him, forgot his birthday, and sent him nothing at Christmas, and showed absolutely and completely no interest in him until he died. The aunt whom he remembered was one who had visited him at Christmas; her son, whom he remembered, had also visited

him every year. The attendant was very good to him and the wife of the husband treated him like a daughter might. The judge stated in his decision that the will was the kind a normal individual would have made, remembering the people who were good to him and excluding others. Thus, the will was valid and not falsified by delusion. He did know the nature and distribution of his property, although only in a limited way. 'I have a considerable amount of money with the Trust Company, and they send me so much money per year, and that is all I know about it.' He had sufficient knowledge of the whereabouts of his property, knew the nature of his obligations to others; and the fact of his insanity did not invalidate his will."

My hat goes off to the judge for his broad vision and deep human understanding.

When we turn to the question of psychiatry and criminology, there is today a great need to introduce into the criminal law and its modes of administration the lessons concerning human behavior which scientists and experts in problems of human behavior have learned. In an attempt to achieve this, there have been joint committee meetings since 1927 between the Psychiatric Jurisprudence Committee of the American Bar Association and representatives of the American Medical Association, the American Psychiatric Association and the American Neurological Association. These meetings were established because, as a result of much publicity given to the testimony of psychiatrists in a number of spectacular criminal cases, a critical attitude had arisen on the part of lawyers towards psychiatrists and on the part of psychiatrists toward lawyers, resulting in harm and injustice to both. Psychiatrists with the modern conception of mental problems found it hard to accept the old legal definition of insanity. The court trial created a difficult situation when the psychiatrist was employed as a partisan of either state or defense and, therefore, suspected of biased judgment. To quote: "It was, however, evident to progressive jurists and criminologists that no judge can properly protect society and justly sentence a felon without knowing the facts scientifically and psychiatrically determined about the individual adjudged guilty."

Dr. Louis S. Cohane, Chairman of the American Bar Association Committee on Psychiatric Jurisprudence, says: "We must get away from the old archaic system of a specific sentence for a specific crime and for a fixed inelastic term: we must recognize that in modern penology, emphasis is upon correction rather than punishment, with the two important elements being firstly, the protection of society, and secondly, the adjustment of the criminal. The criminal, the individual before the court, is more important than the crime with which he is charged."

The committees above mentioned have recommended the establishment in all juvenile courts, in all courts where felonies are tried, and in every penal and correctional institution, of a "psychiatric service" which is defined as: "Those techniques, arts and methods used to diagnose the mental, nervous, emotional and physical characteristics of the individual, joined with a history of the individual and of his family and of his environment and of his background, so that based upon the facts thus developed, a mode of disposition and treatment could be recommended containing a promise of the development of counteracting tendencies toward conduct which the law designates as anti-social. Its purpose, of course, is to make the most propitious disposal of the individual for the best protection of society and the individual."

This is essentially a sound idea and one which is already in practice in a goodly number of courts and institutions, but it should be infinitely more widespread, and it represents an ideal ground upon which law and medicine can meet and thresh out together one of the great problems of our society. At Sing Sing Prison no prisoner is paroled or discharged without a psychiatric report. The psychiatric service has a large future in the discovery of those prisoners who are most likely to become repeaters or

recidivists. It is out-moded and medieval to both thinking lawyers and thinking doctors automatically to give the man who steals two loaves of bread, six months on the roads; to one who is guilty of forgery, ten years in state prison; and to one who commits a murder, death in the gas chamber, when psychiatric, as well as physical examination, may disclose mental abnormalities and tendencies which play a leading part in the commission of the crime and which must be taken into consideration in the disposal of the individual.

I am not advocating the mollycoddling of criminals; I am advocating considering the individual rather than the crime, and cases are frequent where the chicken-thief has within himself the potentiality of becoming a murderer and where, on the other hand, the commission of a crime produces such a reaction of remorse and repentance upon the guilty man or woman that no fears of further misdeeds need arise. Individuals must be dealt with on their own merits; not on those of the particular crimes they have committed.

As a matter of fact, the hard-boiled criminal fears far more the dispassionate, cold, calculating analysis of the well-trained, impartial psychiatrist than he does the average criminal court judge, whom he may sway by political influence, family connections, sob-stuff, sympathy, and brilliant, if sometimes unscrupulous, counsel. None of these influences the conscientious, unbiased medical man in this appraisal of the psychic constitution and make-up of the patient placed in his hands for diagnosis. Thus a service is given to the individual and to society. The judge, of course, is not obliged to follow the recommendations of the psychiatric report, but it is hoped that it will prove of such value that the bench will feel it to be of inestimable help in the proper exercise of its judicial and sentencing functions. As an example, we can take the atrocious murder of a young girl by Edward Hickman in California a decade ago. To be sure, he went to the gallows; but this did not help the murdered girl in any way. As a matter of fact, a short time before committing the murder, Hickman was released from prison on probation after having been found guilty of forgery. It may well have been that an adequate psychiatric examination by a competent psychiatrist would have disclosed those tendencies in Hickman which would have prevented probation and the subsequent killing.

Law and medicine should be closer to each other than they are at present. They have many points of contact. Both, though in different ways, seek to preserve and to protect society. Each in his separate star seeks an ideal: the law, an equitably distributed body politic at peace with its fellows and justly governed by an essentially benevolent rule; medicine, a healthy people, freed from communicable disease, as resistant as possible to all manner of infection, and the prolongation of life under physical conditions such as make life worth living. Are not these two ideals supplementary and complementary? Will not their union and blending give rise to the more abundant life? While we have been speaking rather broadly of medical jurisprudence, is not jurisprudential medicine of equal importance? Surely so, and it is only by the final march in step of the two greatest and most populous professions that the highest advantage to civilization will result.

They must march together, opposites in a sense though they may be—the one bent on perpetuating itself upon solid ground, expressed so well in the words of Sir Edward Coke: "Reason is the life of the law; nay, the common law itself is nothing else but reason. * * * The law which is perfection of reason," to which, we may add the cautioning words of Terence: "Rigorous law is often rigorous injustice"; and medicine; the most altruistic calling in the world which, in the words of Sir James Bryce, is "the only profession that labors incessantly to destroy the reason for its own existence."

POSTURAL DEFECTS IN ELEMENTARY SCHOOL CHILDREN*

GUY A. CALDWELL, M. D.
NEW ORLEANS

Posture is much more than a matter of personal appearance. It is more than poise, grace and balance or "good body mechanics." When the cause and effect of posture are analyzed it is realized that it is an habitual attitude which represents *the sum of inherited physical characteristics plus the effect of acquired habits since infancy.* Body contours are to some extent influenced by heredity, but to a greater extent by one's habits of eating, breathing, standing, sitting and resting. Posture, moreover, is an expression of the individual's mental attitude. Poor posture is but an expression of fatigue and exhaustion, of languor and ennui, carelessness and indifference, of pessimism and despondency. Good posture, on the other hand, bespeaks pride, ambition, confidence and alertness. The mental attitude and associated habits which beget poor posture are those in general that lead to failure and despondency, whereas, the alert spirit and physical habits conducive to good posture also result in a better physique, a happier outlook on life and the desire to excell, all of which make for success in life.

It is because of a growing acceptance of the importance of postural training that increasing emphasis is being placed on this work in our public schools. There have been very few detailed surveys of the postural defects in the primary and intermediate grades, and tendency has been to neglect postural exercises until children reached high school. The considerable number of older children with very poor posture and some with scoliosis brought by parents to me for examination during the past few years has impressed me with the need for preventive and corrective measures in the elementary school grades. It was also evident from the examination of these children that if these measures were to be effective they must include more than a few setting-up exercises each day. A survey was therefore undertaken at the Southfield School in Shreveport, La., a private institution with grades from one to nine which employs progressive methods of education and is attended by 103 children. This group should, therefore, represent a fair cross section of children in the elementary grades of our public schools.

There has been close cooperation between parents and teachers in the development and support of Southfield School and any program for the physical betterment of the children has always been met with hearty approval and intelligent sympathy. The school's physician is a pediatrician of exceptionally good training and ability who knows intimately the home environment and hereditary tendencies of each child and is quite aware of the psychologic problems present in many instances. He conducts a thorough physical examination at the beginning of each school year, makes frequent subsequent observations and confers with the parents individually about any problems, physical or emotional. The dental survey is most thorough and includes a complete roentgenographic record of all their teeth.

THE POSTURAL EXAMINATIONS

No detailed postural examinations have heretofore been made and physical education has been carried on by the grade teachers in a somewhat haphazard manner. Some doubt as to the necessity for expert assistance in corrective physical education existed among the parents composing the board of directors and the following survey was undertaken to convince them that the need was essential.

A slight modification of the examination form used by the Los Angeles City Schools was employed for tabulation of the measurements and postural defects. In addition, three to five photographs of each child were taken and mounted in a folder on the page opposite the postural data. This folder was accompanied by a second which included the report of the complete physical examination by the pediatrician. The gen-

*Read before the Orleans Parish Medical Society, May 23, 1938.

eral data of age, height and weight and physical type were supplemented by notations of the postural defects such as the head forward, a high shoulder, separation of the shoulder blades, a high or prominent hip, knock-knees, bowlegs or back knees, pronated ankles, arch defects, and, with reference to the spine, kyphosis, lordosis or scoliosis. The kinds of shoes worn by each child were noted in connection with examination of the feet. Consecutive columns were provided for similar observations to be made in subsequent years. Each child's record was then reviewed with the pediatrician and instructions written to the teacher, parent, dietitian and instructress in corrective physical education.

TABLE 1

AGE—HEIGHT—WEIGHT RATIO

Average:	Grade 1	Grade 2	Grade 3	Grade 4	Grade 5-6
Age	6	7	8	8.8	10.7
Height	46.4	49.5	51.5	53.6	57.7
Weight	47	52	62	65	83
Overwt.	4	3	3	3	5
Underwt.	4	6	7	8	3
Normal	5	9	5	7	7

SCOPE OF POSTURAL SURVEY

The children were undressed for examination, the height and weight of each was recorded by a teacher and the postural defects were noted by the writer. Observations were made only in the standing position, but to verify the defects first noted the child was required to walk back and forth several times and his attention was diverted to see whether the attitude was constant or assumed through self-consciousness and embarrassment. The child was then photographed in the various positions by a technician with no effort made to have him pose or correct his natural posture. When the photographs had been developed and mounted, the charted defects were compared with the pictures and in nearly every instance were found to be constant.

The age, height and weight of each child were compared with the averages established in the tables of Bird T. Baldwin and Thomas D. Wood and the number of pounds over- or underweight recorded. The records were then grouped by grades; the averages and percentages of defects present were estimated and noted on graphic charts. The number of children in each grade varied from eleven to eighteen and the percentages are doubtless somewhat inaccurate but since the differences are usually great and the trends obvious, small errors are not important.

Each child in this series whose weight fell within three pounds above or below the standard for his age and height was considered to be within the normal range for dietary and exercise measures. In Table 1, the first column indicates that there are thirteen children in the first grade whose ages average six years with an average height of 46.4 inches and an average weight of 47 pounds. Only 40 per cent of the 103 pupils were within three pounds over or under the standard weight for their age, sex and height. One fourth, (25 per cent) were from five to twenty pounds overweight and 35 per cent of all were from five to thirty pounds underweight. As shown in Table 1, those in the over and underweight groups were about equally distributed among the various grades. (Figures for the seventh, eighth and ninth grades were omitted from the table but included in the percentages.) It is apparent, therefore, that 60 per cent of these children presented a problem of nutrition in conjunction with their postural deviations.

An average of the chest expansions of the children in each grade was taken and the curve of increase plotted. The normal curve was set up from the average of chest expansion of the more normal appearing children because no standard tables for children of these ages are available. These measurements indicated an average increase of about one-half inch of chest expansion between those in grades one and two and no further increase occurred during the next four years. This failure to develop chest expansion was, perhaps, more apparent than real. The examiner found that most of the children did not know how to inhale or exhale to the capacity of their lungs, nor could they be taught to do so in

the few minutes allotted to each examination.

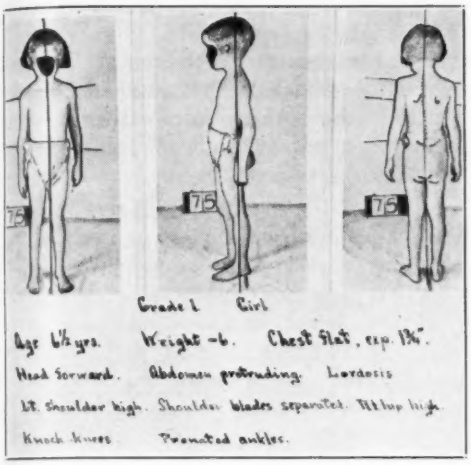
Grade 1 Girl
Age 6½ yrs. Weight -6. Chest flat, exp. 1¾".
Head forward. Abdomen protruding. Lordosis
Lt. Shoulder high. Shoulder blades separated. Rt. hip high.
Knock knees Pronated ankles.

Figure 1.

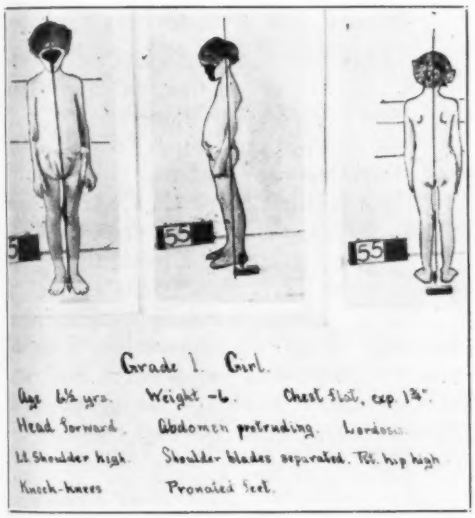
Grade 1. Girl.
Age 6½ yrs. Weight -6. Chest flat, exp. 1¾".
Head forward. Abdomen protruding. Lordosis.
Lt Shoulder high. Shoulder blades separated. Rt. hip high
Knock-knees Pronated feet.

Figure 2.

Of greater importance were the distinctly flattened chests that were seen in 23 per cent of the 79 children from the first through the sixth grades. Flat chests are usually associated with the worst features of poor body mechanics and often represent bony malformations that are very resistant to corrective measures.

The head forward attitude was observed in 57 per cent of pupils with but slight indication of improvement among the older children. This deviation was more often seen associated with underweight and flat chests, but was present to some extent in the normal and overweight groups.

One shoulder, usually the left, was higher than the other in 61 per cent of the pupils and occurred most often in the first, second and third school years. A high or prominent hip was present in 37 per cent of the children, but was less frequently seen after the third school year.

Separation of the shoulder blades was observed in 62 cases and, in 13 of these, there was second or third degree separation, indicating marked forward drooping of the shoulders. This deviation was present in 85 to 90 per cent of those in the first and second grades and there was a trend of improvement as the children grew older.

The occurrence of a protruding abdomen and lordosis was almost the same and were most common among the first grade children. This noticeable increase should be discounted, since it is probable that many of the younger children had not lost their infantile lordosis which is not considered pathologic[1]. There was a definite trend of improvement in the higher grades. Among the 39 children with lordosis, ten had definite postural curvatures of the spine and several of these were in the younger children.

Knee and leg deviations appeared in 45 per cent of the children, the knock-knee deformity being much more frequent. Spontaneous improvement apparently does not always occur as the children grow older. Pronated ankles were seen in 65 cases and among these were seven with clinical evidence of prehallux. Other foot defects, such as flattened arches, were not separately listed in most instances. Rubber soled shoes and many kinds of poorly fitted slippers were seen on about 60 per cent of the pupils. Among all those with knee and ankle deviations, only three were wearing corrective shoes. Socks and stockings were often found to be too tight and short in the feet.

The photograph, (fig. 3) illustrates the kind of furniture used in this school. It is

obviously impossible to adapt such desks and chairs to meet the postural needs of many children. An effort has been made

Figure 3.

by the teachers to adapt the height of the chair legs to the child's needs, but the high backs and broad seats encourage a slumping position or tilting of the chair and the desk height is often incorrect.

Investigation of the school kitchen and routines for lunch service revealed that a generous and wholesome diet was generally served and the ration fairly balanced and varied. The obvious fault was that this same generous meal was served to all, whether they were over or underweight. Comparisons of weight records over a period of three months indicated an average increase in weight of three pounds in all the children. Further study indicated, however, that most children in the overweight group were gaining rapidly, whereas those of the underweight group, for the most part, were gaining slowly or not at all.

SUMMARY OF PROBLEMS PRESENTED

This brief survey is much less complete than the few others that have been published, but is adequate to indicate the major postural and static defects and the magnitude of the corrective problem in childhood. The problems presenting for solution in the Southfield School as indicated by this survey are as follows:

1. The majority of children at the time they enter school and throughout the elementary school years were either over or underweight as a result of faulty eating habits or unbalanced diets.

2. Most children in the first five years of school had inadequate chest expansion and had never learned to breathe deeply.

3. The postural deviations of the head, shoulders, trunk and spine which were present in 50 to 60 per cent of the children occurred just as often in the first three grades as in the second three.

4. Deformities or weakness of the knees and ankles appeared in 80 to 90 per cent of the primary grade children and in 50 to 70 per cent of those in the more advanced years.

5. Most of the shoes and socks worn were poorly fitted and tended to aggravate rather than correct any defects.

6. The seating arrangements and desks were promoting poor posture.

7. The dietitian failed to adapt the school lunch to the weight status of each child.

8. The grade teachers, although they had received some instruction in the correction of postural defects and had some general knowledge of physical education, did not know how to group their children and control their activities on the playground and in the schoolroom for the best postural results.

TREATMENT AT THE SOUTHFIELD SCHOOL

As a result of the postural survey the following report and recommendations were made to the directors, parents and teachers:

1. A brief outline of the character and extent of postural deviations was presented to the Board of Directors and teachers and subsequently at a mass meeting of all parents.

2. A part-time instructress in corrective physical education was employed and charged with responsibility for: (a) Assisting the grade teachers in a corrective program by demonstrating in the room and

on the playground the games and exercises adapted to their respective groups; (b) giving special corrective work to groups formed from class "D" throughout the school; (c) through talks, pictures, games and dances, awakening interest of the children in maintaining good posture; (d) aiding the teachers in adapting desks and seats as far as possible, to meet the postural needs of the individual child.

3. Following the presentation of the whole problem to parents, a report of the child's postural status and needs was sent to each with directions for getting proper shoes and socks and general advice concerning the dietary needs. In many instances personal conferences with the pediatrician concerning dietary management were advised.

4. Each grade teacher was given a list of the C and D groups in her room with suggestions for better seating, additional rest periods for some and for active exercises or play exercises as outlined by the instructress in corrective physical education.

5. The dietitian was advised to establish a training table for the overweight group, but to permit the underweight group to eat with the normal group, giving both a generous diet.

6. The Executive Committee was shown the evils of poor desks and seats and recommendations made for the purchase of adjustable types that would correspond with the principles laid down by Lovett[2].

CONCLUSIONS

1. Static and postural deviations are exceedingly prevalent among pupils in the elementary school years. They are just as frequent in the primary grades as in the more advanced, indicating the need for beginning consistent and intensive corrective physical exercises with the youngest school children.

2. Pronated ankles and knock-knees are present in such a high percentage of primary grade children as to indicate the need of a broad program of education for physicians and parents relative to the advantages of correcting such defects during pre-school years.

3. The correction of postural defects during elementary school years must be closely correlated with improvement of the dietary habits and nutritional status of the children during this rapidly growing period of their lives. The solution of this problem calls for the education of parents and teachers concerning child guidance in selecting and eating proper foods.

4. Better development of the chest by appropriate exercises during the first four years of school life should be possible and would contribute greatly to better body mechanics in later years.

5. The situation in most elementary schools in this city and state is probably the same as has been outlined from the Southfield School Survey. The correction of the trouble demands a program of education of parents and teachers as well as revision of the studies and play activities of all the children. To accomplish all this, physicians generally must be convinced of the value of and necessity for such steps, and they must, in turn, pass this conviction on to their patients who are parents.

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2. Lovett, R. W.: Lateral Curvature of the Spine and Round Shoulders, P. Blakiston's Son & Co., Philadelphia, 1922.

DISCUSSION

Dr. Emile Naef (New Orleans): Dr. Caldwell has sounded a timely note. The usual tendency is to see that the child gets a proper diet with any necessary tonic medication, and possesses no gross deformity. No consideration is given the fact that the child must develop mentally and posturally as well as physically.

One observation made on looking at the charts shown is the failure of chest expansion in the children during the primary grades. I am impressed with the same condition existing also during the pre-school age as well as during the first years of school life. The question arising is whether this is due to any life habitus, or to the physiologic effect of environment or because of some dietetic factor. In an extensive survey of this sort, one feature I regret not having seen developed is the relationship of previous illness to postural defects.

Another important phase of posture demonstrated in the charts is the protuberant abdomen

and lordotic type of posture. This type is predominantly seen in children during the first year of school life, and the question is whether this is a hangover of normal infantile lordosis or a late rachitic residual.

The costal angle is a factor in registering the general postural status of the child, the acuity or obtuseness of this angle being regarded as an index of vital capacity. It is observed of course, that the tall, slender type of child has a more acute costal or epigastric angle and the broad, stocky type has the more obtuse, and less acute angle. However, the more completely postural correction is practiced, the more the circumference of the chest is increased, with a proportionate decrease in the acuteness of the epigastric angle, and the more effectively the child develops from the suboxygenation type into a normal nutritional type.

We pediatricians are lacking in that we do not impress the necessity for correct postural habits. We do fully impress the necessity for adequate vitamin, mineral, and caloric intake in the child's dietary in order to prevent the later subnutritional states, but we neglect to impress parents and teachers with the importance of correct postural habits in standing, sitting, breathing and walking.

Dr. Paul A. McIlhenny (New Orleans): I had the pleasure of reading Dr. Caldwell's paper and I think what Dr. Naef has said is very timely, especially now that we are just ending our school term and entering into the vacation time when children of various ages will be brought to the pediatrician and family physician and general practitioner for a general check-up after nine months of schooling.

There is no doubt at all that by far the majority of these defects are simply an habitual condition, starting at the earliest time when a child is able to sit up. The parents are primarily at fault. They think immediately that the child must have a pillow to rest his head on. That seems a little far-fetched, but a child lying on his back with a pillow under his head predisposes to a faulty posture, even lying down. In walking around the child assumes a faulty attitude, either puts hands behind his back or in front and naturally develops a faulty attitude. As soon as they go to school they are confronted, as Dr. Caldwell has shown in his pictures and Dr. Naef mentioned, with uncomfortable positions due to faulty seats and desks. They are unfortunately put in a class according to their ability to be in the class and it does not make a particle of difference whether they are three or five feet high, they are put in the class in which they belong and use the desks and chairs in that class. Unfortunately, we do not have sufficient observation or supervision in our private, parochial or public schools in this regard with teachers and observers to recognize the potential postural deformities in children, and I am quite sure that my remarks will be borne out by those who are interested in children of the kindergarten as well as the primary and high school age. It is astounding to see such children at play and note that by far the majority of them are assuming postural defects due to habitual unbalance.

It is needless to say that with a flat chest we necessarily have decreased thoracic breathing and increased diaphragmatic or abdominal breathing. Immediately we have a prominent or pendulous abdomen, commonly "pot" abdomen, resulting in ptosis. Ptosis means, sooner or later, chronic constipation. Chronic constipation means lowered resistance. Lowered resistance means further reduction and it is only by careful observation of these children as soon as they begin to stand up to note their posture and try, by education of the child and cooperation of the family and teachers, to correct this condition. Pot belly and pronated feet are predisposing causes in habitual deformities, and it is astounding to note the great number of children of kindergarten or school age who show such conditions. Habitual deformities are, in many instances, easy to correct but if allowed to persist will in the majority of cases develop such structural change that forcible correction or operation may have to be resorted to in order that a somewhat normal posture may be restored.

Dr. Béla Halpert (New Orleans): I should like to ask Dr. Caldwell whether he has any information as to how many of the children with lordosis had orthostatic albuminuria.

Dr. E. A. Bertucci (New Orleans): I have been connected with the public school system for eleven years and I have had the opportunity of seeing these children from kindergarten age up to graduation from the high school. I have noticed that, of the children in the kindergarten, a goodly number have separated shoulder blades or some form of flat chest or scoliosis and so forth. Following these children from year to year, we have a card system whereby, in making examination, we check upon the physical defects and follow these up through the grades. We find, especially in small children in the kindergarten and first grades where they have, I should say, about forty or fifty per cent pronated ankles, that they gradually work out of that defect of themselves without any effort at correction. Having traced the child's habits I tried to find out whether there was any effort made to correct these physical defects, and I found that they did not usually make an effort at correction. Later, when in the fifth, sixth and seventh grades, it was noted that most often such a condition did not exist any more.

I found that about forty or fifty per cent of the children who have these physical defects have some form of malnutrition, that is some form of lack of muscular tone and later on in life, when they indulge in more active and strenuous physical exercise, they develop these muscles, the muscle tone increases and the physical defects are corrected unconsciously without special exercise. When the child gets to high school age and the physical

defects are not corrected he should be referred to an orthopedic man for special form of exercise for these defects. The majority of the physical defects in children detected by Dr. Caldwell, I found gradually work out of themselves except in special cases where children who are continually malnourished or who do not get the proper amount of vitamins and mineral salts maintain these defects. In these cases the condition undoubtedly requires correction by a specialist.

Dr. Guy A. Caldwell (In conclusion): The lordosis which was noted in a high percentage of the children in the first grades, is most probably a hangover from the infantile stage.

Albuminuria was investigated by the pediatrician who was working at the same time on the group. The incidence of albuminuria was low, although I cannot give the exact percentage.

I grant that spontaneous improvement of most postural defects is to be expected in a healthy child who is growing rapidly along normal lines. The majority of the defects seen in children, as outlined here, would not require individual orthopedic attention. The idea, however, that all will spontaneously get well is probably not true, otherwise we would not find 80 per cent of Harvard's Freshmen with postural defects.

There was a survey accurately carried out ten years ago at the Chelsea School in Massachusetts in which some seventeen hundred children were divided into two groups and followed for two years. One group was given postural training by way of their own school teachers and the other group was given none. The groups were surveyed again after two years and those who had not had postural training did not show a high percentage of improvement. They showed little improvement, but spontaneous recovery was relatively slight. From six to ten times as many from the group that had postural training showed definite and pronounced improvement and retained it. In the group whose posture improved there was noticeably better scholarship, fewer absences on account of illness and much better deportment. It is because of these facts that I am pleading that we have more attention given to postural training in our schools.

THE SURGERY OF ACUTE CHOLECYSTITIS*

MIMS GAGE, M. D.†
NEW ORLEANS

Acute cholecystitis signifies an acute inflammatory process of the gallbladder with the clinical manifestations of a systemic toxemia, characterized by fever, nausea, vomiting, rapid pulse, leukocytosis, and local manifestations of pain, tenderness, and rigidity in the region of the gallbladder.

That several types of cholecystic inflammations may present similar pictures varying only in degree is an indubitable fact; therefore one must have a clear conception of the pathology occurring in the extrahepatic-biliary tract which is responsible for the clinical manifestations. It is the interpretation of these variables that is confusing and often leads to error in diagnosis and surgical judgment.

*Read before the fifty-ninth annual meeting of the Louisiana State Medical Society at New Orleans, May 4, 1938.

†From the Department of Surgery, School of Medicine, Tulane University of Louisiana, New Orleans.

ETIOLOGY

A clear conception of these variable factors is obtained more readily by dividing the etiology into three parts: (1) chemical; (2) mechanical; (3) bacterial.

The chemical factor in the production of an acute non-bacterial cholecystitis probably occurs more frequently than is recognized. Mann first demonstrated that Dakin's solution administered intravenously would produce an acute cholecystitis, the Dakin's solution having a selective affinity for the gallbladder. The resulting lesion consisted of edema and round cell infiltration, which microscopically resembled that produced by bacterial invasion. Recently Aronhson and Andrews produced inflammatory reactions in the gallbladder, ranging from acute to gangrenous cholecystitis, by injecting bile salts into the gallbladder of dogs. They also produced acute inflammatory reactions in the gallbladder by giving the bile salts intravenously. The reactions in the gallbladder consisted of marked edema of the serosa which extended inward towards the mucosae. This reaction is similar to the inflammatory changes found in the gallbladder of humans. The injection of concentrated bile salts into

the lumen of a dog's gallbladder by way of the common duct produced gangrenous changes in the gallbladder wall.

That these chemical inflammations occur in the human gallbladder is known but not sufficiently appreciated. This chemical cholecystitis is probably precipitated by abnormal function as well as by mechanical factors. One of the most common causes is the functional disturbance of the sphincter of Oddi and duodenal spasm. This dysfunction produces an acute obstruction to the outflow of bile, resulting in an overdistention of the gallbladder. If the bile is highly concentrated and rapid absorption occurs, the concentrated bile salts produce an acute chemical lymphangitis of the gallbladder wall. However, in the majority of cases, this inflammatory reaction subsides rapidly. This type of chemical lymphangitis of the gallbladder produces the clinical manifestations of an acute cholecystitis. It is these recurrent attacks of chemical lymphangitis and cholecystic dysfunction that are responsible for gall stone formation and secondary bacterial invasion of the gallbladder wall.

The mechanical factors, by producing obstruction of the cystic duct, produce similar inflammatory states as described above in the functional disturbances. The mechanical factors responsible for the obstruction of the cystic duct are anatomic abnormalities of the cystic duct, hepatic and cystic arteries, and gall stones. Jurje, in an extensive anatomic investigation of 194 cadavers, demonstrated that the cystic duct passed behind the common hepatic duct to enter the duct in 6.7 per cent; it passed behind the common hepatic duct and entered the duct on its posterior surface in 15.5 per cent; and it paralleled and was adherent to the common hepatic duct for a short distance. Therefore, in 53.1 per cent of 194 cadavers there were anomalies of the cystic duct. Similar studies were made by Flint upon 200 cadavers in which it was found that the relationship of the bile ducts and vessels conformed to the textbook description of the normal in only 34.5 per cent. Therefore, in Flint's series, anomalies of the ducts and vessels occurred in 65.5 per cent. Brown, of Tulane, working in the laboratory of gross anatomy, has confirmed the work of Flint as regards the anomalous vessels.

It is my opinion that anomalous blood vessels, cystic ducts, and accessory hepatic ducts can and do produce temporary and in some cases permanent, mechanical obstruction to the normal outflow of bile. These temporary obstructions by anomalous ducts and blood vessels eventually produce definite cholecystic changes. These anomalies differ in no way from the anomalies of the ureters and accessory renal vessels. It is well known that extrarenal anomalies produce acute renal colic, and in some instances stasis and infection of the kidney. Therefore, it is readily conceivable that anomalous biliary vessels and ducts are contributing factors to the etiology of chemical cholecystitis which finally terminates in bacterial cholecystitis and gall stone formation.

The development of cholelithiasis is probably dependent upon repeated functional disturbances in the extrahepatic biliary system. In the majority of instances of cholelithiasis, bacteria have already invaded the wall of the gallbladder. Impaction of a gall stone in the cystic duct produces a sudden block to the outflow of bile. Intracholecystic pressure is greatly increased and, if the stone is not floated up or dislodged, an acute chemical cholecystic lymphangitis results. Edema of the gallbladder wall rapidly ensues, extending downward around the ampulla and cystic duct. This marked edema around the cystic duct (lymphatics and lymph nodes of the cystic duct) produces compression of the venous return from the gallbladder. The venous compression augments the edema and, if not relieved, becomes increasingly progressive and infarction or gangrene of the gallbladder occurs. It is at the beginning of this stage that bacterial invasion of both the gallbladder wall and the bile adds to the inflammatory process resulting in empyema and pericholecystic peritonitis. There are, however, a few

cases in which gangrene occurs so rapidly that infection plays only a minor part.

The acute and permanent obstruction of the cystic duct by gall stones and the subsequent sequelae can be compared to acute obstructive appendicitis. In acute obstructive appendicitis the clinical manifestations are produced by the obstruction and distention without systemic reaction. Early gangrene due to obstruction of the blood supply and bacterial invasion are manifested by systemic reactions: leukocytosis, rapid pulse, and fever. Perforation and peritonitis are common, occurring in 17 per cent of cases according to Heuer.

The same sequence of events occurs in the gallbladder with cystic duct obstruction. The systemic reactions manifest themselves only when severe chemical and bacterial inflammation supervene. Therefore, the most dangerous factor in the development of acute cholecystitis is the secondary invasion of the gallbladder wall and its contents by bacteria. This bacterial invasion is responsible for the majority of the complications of acute cholecystitis.

Illingworth, in 1928, from a most careful and painstaking bacteriologic study of 100 gallbladders removed at operation, found a rather high incidence of bacteria in the gallbladder wall and bile. He washed pieces of gallbladder wall in saline, then exposed the specimen to ultraviolet rays for one minute before making his cultures. Illingworth previously determined the effect of ultraviolet radiation and found that an exposure of one minute destroyed gross contamination. The gallbladder wall gave positive cultures in 62 per cent. The most frequently encountered organism was the streptococcus. The bile was found to be sterile in 60 per cent of the 100 cases. The high incidence of negative cultures obtained on culture of the bile corresponds to the results obtained by Andrews and many others.

Wilkie, in 1928, reported his bacteriologic studies in 50 consecutive cases of cholecystitis. He obtained positive cultures from the lymph node of the cystic duct in 89.9 per cent of the cases. Culture of the bile and all coats of the gallbladder gave positive cultures in six cases each, or 12 per cent, and negative cultures in 88 per cent. The streptococcus was the predominating organism found in the lymph nodes (86 per cent). The low incidence of positive cultures obtained from the bile and especially the gallbladder wall was due to the presence of bile. Wilkie conclusively demonstrated that a few drops of concentrated bile inhibited the growth of the streptococcus. This probably explains the low incidence of positive cultures obtained by others.

Wilkie injected the streptococcus into the lumen of the gallbladder in a series of rabbits with negative results. However, when the streptococcus was injected into the wall of the gallbladder, with and without ligation of the cystic duct, there occurred marked changes in the wall which persisted for months. There were also concomitant inflammatory changes in the liver. With repeated injections of streptococci intravenously in rabbits, with and without ligation of the cystic duct, a high incidence of severe cholecystitis occurred with gall stone formation. The stones were pure cholesterol stones. Mucopurulent material and gall stones developed in the rabbits that had the cystic duct ligated. In all the control animals (cystic duct ligation and saline administered intravenously) there developed a simple mucocele of the gallbladder without infection.

In all the experimentally produced cholecystic disease, Wilkie was able to recover the same streptococcus that was injected intravenously to produce the cholecystitis. This streptococcus proved to be the same as was originally cultured from the gallbladder of the human cases. The investigations of Wilkie confirm the earlier work of Rosenow.

The most careful bacteriologic investigations reveal a very low incidence of bacteria in the bile of acute gallbladders. Therefore, infection by way of the bile can practically be eliminated as a primary source of infection of the gallbladder. The high incidence of streptococci found in the wall of gallbladders and in the lymph nodes, (Illingworth and Wilkie) demonstrates that the majority of gallbladders are in-

fected by both the blood stream and the lymphatics. The presence of bacteria in these two localities probably accounts for the progressive types of gallbladder infections observed clinically.

OBSTRUCTION OF CYSTIC DUCT

From a discussion of the etiologic factors, there is one that plays the most important role in the production of acute cholecystitis. That common and constant factor is obstruction of the cystic duct. Obstruction of the cystic duct is found in all cases of acute cholecystitis and is due to gall stones in 85 to 90 per cent of the cases. In the case of obstruction without stones there is some other factor present. I believe that this factor is anomalous ducts and blood vessels.

The fact that gall stones are the most constant cause of cystic duct obstruction indicates that acute cholecystitis in the majority of instances is the result of prolonged recurrent dysfunction of the gallbladder with repeated attacks of mild cholecystitis of the various types enumerated above. These repeated attacks of dysfunction, temporary obstruction, and chemical cholecystitis are productive of stone formation and secondary infection. In 365 cases of cholecystitis, MacCarty found lesions that substantiate the above. He found stones in 69 per cent of acute catarrh, 76 per cent in chronic catarrh, and 93 per cent in advanced chronic inflammations. Judd, on the other hand, in a review of 508 cases of acute cholecystitis, found stones present in 484, or 95.4 per cent.

This, I believe, demonstrates that acute cholecystitis is the final and end result of prolonged dysfunction of the gallbladder and its associated ducts.

PATHOLOGY

The pathology of acute cholecystitis is quite variable. There is however, a common sequence of events noted in the majority of cases. There is obstruction of the cystic duct in 100 per cent of the cases, which in 85 to 90 per cent is caused by gall stones. The impacted stone produces a sudden obstruction to the outflow of bile, resulting in a marked increase in the intracholecystic pressure with rapid absorption of concentrated bile salts both by the lymphatics and the veins. This produces an acute chemical lymphangitis of the gallbladder wall characterized by varying degrees of edema, as shown by Aronhson and Andrews, Wilkie, Denton, Feinblatt, Andrews, and Clute. The edema extends from the serosa inward and also along the cystic duct and involves the duct lymph gland. This edema soon compresses the veins, especially those situated close to the ampulla of the gallbladder and cystic duct. The veins are more closely associated with the ampulla of the ballbladder and the cystic duct than are the arteries. The venous obstruction becomes progressive and creates a vicious circle, which finally terminates in infarction, hemorrhage, and gangrene of the gallbladder wall.

This type of gangrene of the gallbladder can occur without the aid or presence of bacteria. The early lesion, not bacterial but chemical and vascular in nature, is frequently spoken of as an acute catarrh of the gallbladder. The microscopic picture is edema with slight to moderate hemorrhage and marked round cell infiltration.

In acute obstructive cholecystitis without stones (10 to 15 per cent of the cases) the obstruction of the cystic duct is due to anomalous vessels and ducts. In the noncalculous type we find the same pathologic picture as that described above in which gall stones were the obstructing agent.

I believe that this sequence of events occurs in 90 per cent of the cases of acute cholecystitis, because it has been shown both clinically and experimentally that in the acute cases the gallbladder wall is void of bacteria in over 80 per cent, and the gallbladder bile is sterile in 65 to 88 per cent.

The majority of these chemical inflammations will subside in a few days. However, if the inflammation progresses, the process becomes irreversible and bacteria rapidly invade the wall of the gallbladder and the bile. This bacterial invasion produces suppurative cholecystitis, empyema,

and gangrene. It has been shown that the streptococcus is the most frequent invader of the gallbladder wall and that the colon bacillus is the most common organism found in the bile, (Wilkie, Aronhson and Andrews, and Magner and Hutcheson). That the bacteria are late invaders is due to the presence of bile and its chemical constituents in the gallbladder wall, which are inhibitory to their growth. This is particularly true of the streptococcus. Wilkie demonstrated this by adding a few drops of bile to the culture medium which prevented the growth of the implanted streptococcus. This phenomenon probably accounts for the low incidence of positive cultures from both the gallbladder wall and the bile in acute cholecystitis.

COMPLICATIONS

The pathologic complications of acute cholecystitis are: suppurative cholecystitis, empyema, perforation with localized peritonitis and abscess formation, generalized peritonitis, subphrenic and subhepatic abscesses, pancreatitis, acute hepatitis, pylephlebitis, and suppurative calculous cholangitis.

That gangrene and perforation are the most frequent complications of acute cholecystitis is revealed by a review of the literature. Mentzer reported an incidence of 32 per cent of gangrene and perforation in a series of 134 cases. Judd and Phillips reported 12 per cent of perforation in 508 cases. Miller's incidence of perforation and gangrene in 200 cases was 30.7 per cent. In Heuer's collected series there was an incidence of gangrene in 20 per cent. The incidence of perforation of acute cholecystitis, according to Heuer, is comparable to the incidence of perforation of acute appendicitis. In a series of 593 cases of acute appendictis, gangrene and perforation occurred in 17.5 per cent. The incidence of gangrene and perforation occurring in acute cholecystitis during the same interval of admission of the acute appendicitis cases was 10.5 per cent. The etiologic factors in both are also similar. They are obstruction, distention, increased intralumenal pressure, interference with the vascular supply, and infection. Therefore the high incidence of gangrene and perforation of the gallbladder in acute cholecystitis is probably dependent upon vascular interference. This vascular inhibition, occurring first on the venous side resulting from pressure produced by edema, and also by intramural strangulation, is produced by an increase in the intracholecystic pressure. This venous stasis is invariably followed by infarction, hemorrhage, gangrene, infection, and perforation. Peritonitis is of common occurrence following perforation of the gallbladder, and in the majority of instances is localized, producing a pericholecystic abscess. Peritonitis is rarely of the generalized type occurring in only 0.59 per cent of Judd's series of 508 cases of acute cholecystitis.

Therefore localized peritonitis and pericholecystic abscess are the most common and important sequelae of perforation of the acute gallbladder. Localization of the peritonitis to the immediate area of the gallbladder is due to the fact that the omentum, transverse colon, duodenum, and liver are constantly in contact with the cholecyst. This pericholecystic peritonitis with or without abscess formation not infrequently spreads by continuity of tissues and also by the lymphatics to the subhepatic and subphrenic spaces, producing secondary abscesses in these areas. Pancreatitis, secondary to acute cholecystitis, is of frequent occurrence because of the intimate relationship between the lymphatics of the pancreas and the gallbladder. In Judd's series of 508 cases of acute cholecystitis definite involvement of the pancreas occurred in 15 per cent. Colp's study of 130 cases of acute cholecystitis at autopsy revealed only one case of acute pancreatitis. The pancreas, therefore, is involved only by a mild inflammatory process. The correct pathologic lesion in the majority of cases is a mild pancreatic lymphangitis with edema. However, some of the cases will reveal a high grade acute pancreatic necrosis.

One of the most serious associated primary pathologic states of acute cholecystitis

is the presence of choledocholithiasis. In Colp's autopsy series of 130 cases of acute cholecystitis common duct stones were present in 10.7 per cent. In 300 consecutive cases of acute cholecystitis reported by Pennoyer, 7 per cent had choledocholithiasis. The seriousness of this associated lesion is of paramount importance because the common duct is obstructed, and bacteria rapidly invade the wall and the bile within the lumen of the common duct, producing a choledochitis. The infection rapidly extends into the hepatic bile radicles by continuity of tissue and the lymphatics, producing a suppurative hepatic cholangitis. The mortality in suppurative hepatic cholangitis is very high as evidenced by the 14 cases in Colp's series of 130 cases of acute cholecystitis. This complication is a late manifestation and is the end result of a progressive inflammation of the cholecyst. When the infection has involved the common duct, the portal vein not infrequently becomes implicated in the inflammatory process due to its close anatomic relationship. When pylephlebitis develops, the phlebitic process extends into the portal radicles of the liver producing suppurative hepatitis with multiple abscess. In Colp's series of 130 cases of acute cholecystitis, pylephlebitis occurred in 6 instances, or 4.6 per cent. Therefore, pylephlebitis, although not of frequent occurrence, will result in a mortality of almost 100 per cent.

For comprehensive review of subhepatic and subphrenic infections, pylephlebitis and liver abscess, the reader is referred to two excellent articles on subphrenic infections and liver abscess by Ochsner and DeBakey.

CLINICAL EXPRESSIONS

The clinical manifestations of an attack of acute cholecystitis are characterized by a sudden onset of severe pain, located beneath the subcostal arch on the right side. The pain is usually sharp and lancinating in character and frequently radiates towards the back and beneath the right scapula. The pain may or may not be intermittent in type. The pain in the severe forms of acute cholecystitis becomes continuous and progressive without relief. This is due to the sudden and rapid distention of the gallbladder by obstruction of the cystic duct. This obstruction is due to the impaction of a gall stone in the cystic duct in over 90 per cent of the cases. In the early or chemical inflammation of the gallbladder, the symptoms are the same as those produced by bacterial invasion, but are of a lesser degree. However, in a few cases the development of an acute pyogenic cholecystitis occurs as the primary lesion and the acute inflammation progresses very rapidly. It is this type of case that manifests profound clinical symptoms early in the course of the disease.

Tenderness and rigidity, next to pain, are the most frequent clinical manifestations. Tenderness occurred in 95 per cent and rigidity in 75 per cent of Kunath's series of 103 cases. The tenderness and rigidity also vary greatly in their degree of elicitation. If the gallbladder is distended and acutely inflamed without exudation on the serosal surface, the pain on pressure over the gallbladder region is not marked when the patient is in the recumbent position. However, in the erect position, palpation over the gallbladder reveals marked tenderness, and if the pressure is increased, severe pain results. In this type of case, rigidity is almost negligible. Therefore, all patients with symptoms of acute cholecystitis should be examined in both the recumbent and erect positions. When pyogenic organisms invade the wall of the obstructed gallbladder, the inflammatory process rapidly extends beyond the confines of the gallbladder wall. The clinical manifestations reveal constant pain, marked increased tenderness, and rigidity. The upper abdomen is splinted especially on the right side and interference with normal respiratory movements occurs. This diminished excursion of the diaphragm on the right side is of great diagnostic importance.

The leukocytosis accompanying acute cholecystitis is also subjected to variations that are not in conformity with the degree of pathology present. In the non-bacterial type the leukocytosis is not marked, but as the bacteria invade the wall with an accompanying cellulitis, the leukocytes are

in the majority of cases markedly increased. Some authors claim that a leukocytosis of over 15,000 is indicative of empyema of the gallbladder. The leukocytosis in Judd's series of 508 cases of acute cholecystitis ranged from 5,000 to 10,000. In four cases the leukocytosis was less than 5,000. The neutrophile percentage is more indicative of the severity of the inflammatory process within the gallbladder than is the total leukocyte count. This relationship of neutrophiles to total white count should be studied very closely and compared to the clinical manifestations, because the patient may have a severe, rapidly progressive acute cholecystitis and the total leukocyte count not be compatible with the clinical manifestations. Therefore the leukocyte count is not a reliable index to the severity of the disease.

The temperature is also subjected to variations depending upon the degree of inflammation present, whether chemical or bacterial as well as the amount of toxins absorbed. The temperature may range from 97° to 105°. The low or subnormal temperature is frequently seen at the beginning of the disease but is soon elevated to 100 or over depending upon the severity of the inflammatory process. Patients are frequently admitted to the wards with subnormal temperature, which is rapidly elevated to 100 to 105° within the first 24 hours. After the acute inflammatory process has subsided, patients may have a temperature that ranges from 98 to 100° and yet have an empyema of the gallbladder or a pericholecystic abscess. However, the average case of acute cholecystitis will have temperature that varies from 101 to 103°. If the temperature is constantly high, the complications usually present are, gangrene, empyema, pericholecystic abscess, and localized peritonitis.

Nausea and vomiting are early clinical manifestations of acute cholecystitis. In some of the cases it becomes progressive, and the patient has almost continuous vomiting. This is probably due to the severe pain, duodenal spasm, reversed peristalsis, and hypersecretion into the upper gastrointestinal tract. When the vomitus is copious and the vomiting attacks are frequent, there occurs a rapid change in the biochemistry of the blood. The blood chemistry then simulates that which is found in high intestinal obstruction. If this change in the blood chemistry is not ameliorated by appropriate measures, an alkalosis rapidly develops.

The pulse rate as a rule corresponds to the degree of inflammation and toxemia in the majority of cases. There is, of course, a variation which not infrequently denotes cardiac damage. As the majority of cases of acute cholecystitis occur in elderly individuals, a thorough study of the heart should be made. The not uncommon cardiac manifestations associated with and secondary to infections of the gallbladder are well known. Paroxysmal tachycardia is not infrequently associated with chronic cholecystitis, and in an acute attack of cholecystitis an attack of paroxysmal tachycardia may occur. Therefore, one must review the past cardiac history before giving too much credence to a very rapid pulse. However, in the final analysis, the pulse rate (as in the majority of acute infections within the abdominal cavity) is a very reliable index to the severity of the inflammatory process.

Therefore, the clinical manifestations of acute cholecystitis are those of an acute abdomen with signs and symptoms of an acute inflammatory process localizing in the upper right quadrant of the abdomen and with systemic reactions of toxemia, characterized by pain, tenderness, fever, vomiting, increasing pulse rate, leukocytosis, increased blood sedimentation time, and prostration.

DIAGNOSIS

If the attending physician has a thorough knowledge of the pathology of acute cholecystitis, the variations in the degree of the inflammatory reactions, the complications and their pathology, and the sequence of events in both, not only the diagnosis but the degree and progressiveness of the inflammatory state can be accurately determined in the majority of cases. The history is of great importance as regards the

previous attacks of cholecystitis. However, in a small percentage of cases the acute attack may be the first one experienced by the patient. The history also determines the progress of the disease as the patient not infrequently has had several days of home treatment and does not seek hospitalization until complications have occurred. Therefore, at this time the clinical manifestations are not those of simple acute cholecystitis but are those of either empyema, gangrene, or peritonitis. The symptoms of the complications dominate the primary lesion to such a degree that errors in diagnosis are frequently made. This is due to the fact that the symptoms of the complications simulate very closely other acute abdominal diseases, such as acute perforation of gastric and duodenal ulcers, acute hemorrhagic pancreatitis, and high intestinal obstruction. It is not difficult to recognize these similar acute abdominal catastrophies if they are kept in mind when the patient is examined. A very careful and painstaking history and physical examination with evaluation of all the clinical and laboratory data will help to distinguish these clinical entities from acute cholecystitis.

Laboratory aids are of questionable value in corroborating the diagnosis of acute cholecystitis. However, the leukocyte count and the blood sedimentation rate are very important from the standpoint of determining the degree of the inflammatory reaction. According to Leidberg, there is a definite correlation between the clinicopathologic picture and the blood sedimentation rate. He found that the blood sedimentation rate rapidly increased as the inflammatory process progressed and decreased as the inflammation subsided. Also the blood sedimentation rate was higher in the severe case than in the mild form of acute cholecystitis. One is justified in comparing it to the blood sedimentation rate in acute pelvic inflammatory disease. In the latter condition, the blood sedimentation is used to determine the safe period of operation. It should also be applicable to cases of acute cholecystitis which have been treated conservatively. The x-ray is of great value from the standpoint of differential diagnosis, especially in ruptured peptic ulcers and acute intestinal obstruction. In cases of ruptured peptic ulcer, free air is found beneath the diaphragm in 70 to 95 per cent of the cases and is of great diagnostic importance. In high intestinal obstruction the x-ray will reveal gas and fluid levels within the lumen of the intestine. Visualization of the gallbladder by the Graham-Cole method is contraindicated in cases of acute cholecystitis.

Therefore, the sudden onset of severe pain in the upper right quadrant of the abdomen, colicky in type, which radiates to the shoulder, back, and scapula (stimulation of the phrenic and splanchnic nerves and the celiac ganglia) associated with tenderness, mild or severe, and rigidity of the upper right rectus and flat abdominal muscles, is certainly diagnostic of acute cholecystitis. Associated with these clinical manifestations and confirmatory are vomiting, fever, leukocytosis, rapid pulse, and interference with diaphragmatic excursion on the right side, with inability to inspire deeply when pressure is applied over the gallbladder region.

SURGICAL TREATMENT

The surgical treatment of acute cholecystitis has reached the same debatable state today as that regarding the treatment of chronic cholecystitis twenty years ago. However, today the majority of surgeons throughout the world perform cholecystectomies by preference for chronic disease of the gallbladder and the results justify a continuance of this procedure. The debatable question today regarding the surgical treatment of acute cholecystitis is not that of the technic but the time that the operation should be performed, i. e., the immediate operation, the delayed operation, the conservative treatment. This constitutes the three schools of treatment today. Miller, Stone and Owens, Judd, Heuer, Clute, and many others recommend that immediate cholecystectomy in acute cholecystitis is the operation of choice. That history repeats itself is certainly true as regards the immediate operation for acute cholecystitis.

In 1902 Moynihan advised and practiced immediate surgical intervention for gangrenous gallbladder and phlegmonous cholecystitis. The operation of choice was cholecystectomy. Babcock stated in 1915, "before 1912 gangrenous and suppurative gallbladders were removed but now they are drained under local anesthesia." He also stated, "the mortality resulting from cholecystectomy in chronic cholecystitis was less than cholecystotomy in the third stage of acute cholecystitis." Borelius in 1916 advocated immediate operation in the acute stage of acute cholecystitis and stated that following cholecystectomy the healing time is more rapid and that the operation was not more serious than drainage. Lunn in 1917 stated that 20 years ago he advocated immediate removal of the acutely inflamed gallbladder, especially the gangrenous type. He also stated that, "the infective inflammation is more serious and more important than cholelithiasis."

The mortality following cholecystectomy for acute cholecystitis in all of its inflammatory and gangrenous states was prohibitive ranging as high as 70 per cent. Therefore, cholecystectomy in the acute stage of cholecystitis fell into disfavor. Even today cholecystectomy performed in the presence of perforation and localized peritonitis results in a mortality from 11 to 58 per cent, the average being 46.7 per cent (Eliason and McLaughlin). Therefore, an attempt to reduce the high mortality has resulted in the recommendation by many surgeons that patients with acute cholecystitis should be operated upon immediately. Some go so far as to state that all of them should be operated upon immediately without regard to the time interval from the onset of the disease until the admission to the hospital. The teaching of immediate operation in all cases can lead only to disaster, because all cases of acute cholecystitis and its associated pathology cannot and should not be subjected to immediate operation. The cases must be individualized and studied very carefully and thoroughly in order to separate those in which the acute inflammatory reaction is confined within the walls of the gallbladder from those in which the infection has passed beyond the confines of the gallbladder and involves contiguous organs. It must be realized that it is not the acute cholecystitis *per se* that is responsible for the high mortality but the complications, the most frequent being gangrene of the gallbladder with perforation and localized peritonitis. This occurs in only about 20 per cent of all cases of acute cholecystitis. Therefore, immediate operation in the group is certainly fraught with danger, as the mortality will be very high.

The advantageous time to interfere surgically in acute cholecystitis is while the infection is beginning or is confined entirely within the walls of the gallbladder and before there has been extension to the serosa. If all patients with acute cholecystitis could be operated upon within the first few hours after the onset of the disease, having their gallbladder removed, the mortality would be comparable to the mortality of acute appendicitis when the appendix is removed within the first few hours after the onset. Thus the complications of empyema, gangrene, and perforation with peritonitis, either localized or spreading, would not occur. That these ideal conditions exist only in a few cases is due to the fact that the surgeon seldom sees the patient suffering from acute cholecystitis until many hours or even days have elapsed. Therefore, the majority of patients are recovering from the acute attack when first seen or they fall into the 15 to 20 per cent group in which the disease is of the progressive type.

I have divided the different stages of acute cholecystitis into the following groups from the standpoint of surgical intervention. The grouping is dependent entirely upon the intrinsic and extrinsic pathology.

1. Simple obstruction of the cystic duct.
2. Obstruction of the cystic duct with chemical cholecystic lymphangitis.
3. Obstruction of the cystic duct with infective cholecystitis.
4. Obstruction of the cystic duct with suppurative cholecystitis and empyema.
5. Obstruction of the cystic duct with gangrenous cholecystitis.

6. Obstruction of the cystic duct, with gangrenous cholecystitis, with perforation and localizing peritonitis and abscess, or spreading peritonitis.

7. Obstruction of the cystic duct with acute cholecystitis, with choledocholithiasis and jaundice.

As the grouping is an arbitrary one, the surgeon must individualize each case on its own merits aided by his surgical experience, skill, and judgment.

OPERATION

In groups 1, 2, 3, and 5, operation should be performed as soon as the patient can be prepared. This preparation usually takes from two to three hours and consists of restoring the water balance in the dehydrated by infusions of dextrose and saline and the restoration of the blood corpuscular elements in the anemic by blood transfusions. The surgical procedure of choice in groups 1, 2, 3, and 5 is cholecystectomy without drainage, provided the local conditions are not prohibitive of the technical procedure.

In groups 4, 6, and 7, careful analysis of the patient's general condition and the associated pathology as well as the heart, liver, and kidneys should be thoroughly investigated. Groups 4, 6, and 7, should be treated conservatively and watched most carefully by the attending surgeon. I believe that the majority of patients in groups 4, 6, and 7, if treated conservatively, will combat the infection and that the operation can be safely undertaken when the inflammatory reaction has subsided. The operation of choice in groups 4 and 6, after the subsidence of the acute inflammatory reaction, is cholecystectomy provided the conditions are ideal for dissection. However, the patient's safety should never be jeopardized by performing a cholecystectomy if the technical procedure is fraught with danger. If cholecystectomy cannot be performed with safety, one can use the procedure first advocated by Martin and extensively used by Estes. This operation is easily and rapidly performed and results in a low mortality. The operation consists of splitting the gallbladder into halves from the fundus to the cystic duct. The medial and lateral wings are removed. The small remnant left attached to the liver is then de-epithelialized by either the actual cautery or by chemical necrosis. Large rubber dam drains are inserted down to the cystic duct as well as into Morrison's pouch and the abdominal wound closed. However, if the inflammatory process is still active and the gallbladder is thoroughly walled off, simple drainage by cholecystostomy is indicated. When simple drainage is used, a second operation becomes necessary several months later in order that the gallbladder may be safely removed, as symptoms usually recur and persist in a large percentage of patients in whom the gallbladder has been drained.

The cases that belong to group 7 are the most serious of all the various types of inflammations of the gallbladder. In this group not only is there an acute inflammation of the gallbladder but a concomitant obstruction of the common duct. The patient is usually very toxic and deeply jaundiced. If the patients in this group have chills and fever, operation should be undertaken as soon as water balance can be restored and transfusion of whole blood given. When feasible, the surgical procedures should be cholecystectomy and choledochotomy with T-tube drainage, because the patient not only has an acute cholecystitis but an infective cholangitis as well. The mortality in this group will of necessity be rather high because the infection not only involves the extrabiliary tract, but also the intrahepatic biliary tree as well as the liver parenchyma.

The preoperative preparation in groups 1, 2, 3, and 5 consists of re-establishing the water balance with dextrose and saline infusions, and in the anemic and debilitated, transfusions of whole blood, the number depending upon the degree of anemia and the debilitation. In groups 4, 6, and 7, in which the patients have been treated conservatively, the preoperative preparation is most important. One must restore the patient as near the basal physiologic line as possible. The patient should have continuous gastric

suction by the indwelling nasal duodenal catheter by Wangensteen's method, and a heat tent placed over the abdomen or an electric pad placed over the gallbladder region. Water balance and kidney function should be restored by infusions of dextrose and saline or dextrose and Ringer's solution. Transfusions of whole blood are most essential in this group because they rapidly restore and stimulate the combative powers, supply proteins, and increase the circulation of oxygen. To relieve pain morphine and atropine or nitroglycerine should be given subcutaneously. If the pain is very severe and is unrelieved by the above medication, the right splanchnic nerves may be blocked with 1 per cent novocain. The patients in group 7, who have acute cholecystitis with jaundice in addition to the above measures, should have the bleeding time by Ivy's method as well as the prothrombin time to establish the probability of postoperative hemorrhage. Additional medication consists of calcium intravenously, bile salts, viosterol in large doses, vitamin K by mouth, and liver extract by hypodermic injection, the liver extract being given every day for several doses. The blood sedimentation rate should be determined because it offers an index to the progressiveness or regressiveness of the infection.

POSTOPERATIVE CARE

The postoperative treatment is the same for all groups with additional medication for group 7. Following operations upon the gallbladder there results a physiologic and traumatic ileus of the duodenum and upper gastrointestinal tract. Unless this condition is relieved, duodenal regurgitation and vomiting occur which persist for varying periods of time. The straining produced by retching and vomiting increases the pain in the abdominal wound, which in turn decreases the respiratory movements of the diaphragm. This facilitates and encourages bronchial stasis, increasing the incidence of postoperative pulmonary complications. Therefore, continuous gastric suction by the Wangensteen method is used until pyloric balance has been established. The restoration of pyloric balance requires several days in the average case. Infusions of dextrose in Ringer's solution, or dextrose with Hartman's, 3,000 to 4,000 c.c. per 24 hours, should be given for 36 to 48 hours or until the patient is obtaining the required amount of fluid by mouth. Blood transfusions of unmodified blood are given immediately after the operation and repeated as often as indicated. In some of the cases it will be necessary to give four to five transfusions depending upon the general reaction and the tendency to bleeding. All the transfusions in our clinic are given by the DeBakey method. If the Wangensteen suction is functioning correctly, water may be given by mouth. This quenches the patient's thirst and gives a sense of well being, as well as determines the return of normal pyloric balance. A heat tent is applied over the abdomen or an electric pad is applied over the gallbladder region and upper abdomen. Morphine sulphate ¼ grain is given by hypodermic every four hours for the first 36 to 48 hours. This relieves the patient's pain and maintains intestinal tone. If spasm of the ductal system occurs following the administration of morphine, nitroglycerine in 1/100 grain doses can be given either by mouth or subcutaneously.

As soon as pyloric balance is established, the patient is allowed small amounts of tap water. If this is tolerated, the tap water is supplemented by hot unsweetened tea and fat free broth. This is maintained for 24 to 36 hours when soft diet is allowed. When soft diet is taken, one ounce of mineral oil is given night and morning until the patient leaves the hospital. Enemata and flushes are contraindicated as they only increase the discomfort of the patient without benefit to the gastrointestinal tract. In the jaundiced group, in addition to the above, large doses of dextrose are required, and at times it becomes necessary to administer the dextrose in 50 per cent solution in quantities of 100 to 200 c.c. every six to eight hours. Also large amounts of saline solution as well as the electrolytes of the blood are necessary, because there is a tre-

mendous loss by biliary drainage. Transfusions of whole blood are given as frequently as indicated. Bile salts, viosterol, calcium gluconate, liver extract, and vitamin K should be continued over from the preoperative preparation of the jaundiced cases. Intranasal oxygen therapy is frequently given postoperatively.

CONCLUSIONS

1. The etiology of acute cholecystitis is reviewed with a division of the etiology into three stages: chemical, mechanical, and bacterial. The three stages blend into each other and differ only in degree.

2. The precipitating factors are obstruction of the cystic duct by spasm of the sphincter of Oddi, and spasm of the duodenum, the presence of accessory ducts and vessels, and gall stones, the latter predominating to the extent of 85 to 90 per cent.

3. The inflammatory reactions are divided into the following stages: acute chemical cholecystic lymphangitis, acute bacterial suppurative cholecystitis, and gangrenous cholecystitis associated with and without cholelithiasis. Cholelithiasis occurs in 85 to 90 per cent of the cases of acute cholecystitis.

4. The complications of acute cholecystitis are empyema, gangrenous cholecystitis with rupture (20 per cent) producing localized peritonitis with abscess formation or general peritonitis, acute pancreatitis, subphrenic and subhepatic abscesses, pylephlebitis, and choledocholithiasis with jaundice and suppurative cholangitis.

5. The signs and symptoms are those of an acute abdomen with the inflammatory process localizing in the upper right quadrant of the abdomen. Associated are pain, rigidity of the abdominal muscles, vomiting, fever, rapid pulse, leukocytosis, and an increase in the blood sedimentation time.

6. The clinical and laboratory findings are not always indicative of the severity of the pathology present in the gallbladder.

7. The various stages of acute cholecystitis have been arbitrarily divided into seven groups from the standpoint of treatment. Groups 1, 2, 3, and 5 should be operated upon immediately and the gallbladder removed. Groups 4, 6, and 7 should have active conservative treatment until the combative powers of the patient have been restored, and the patient returned to the normal basal physiologic line.

8. Transfusion and dextrose solutions intravenously are extensively used preoperatively and postoperatively. The indwelling duodenal catheter with continuous suction is routinely used postoperatively. Oxygen is also given freely postoperatively by the intranasal route.

9. In cases complicated by jaundice, transfusion and infusions of dextrose in 5 and 50 per cent solutions intravenously, vitamins D and K, calcium gluconate, bile salts, and liver extract parenterally, are given freely preoperatively and postoperatively.

10. Early recognition and early operation without delay will result in a marked decrease in the incidence of complications and maintain a low mortality and morbidity.

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DISCUSSION

Dr. Howard R. Mahorner (New Orleans): Dr. Gage has presented, in a very comprehensive manner, the most recent advances in the treatment of cholecystitis. This presentation demonstrates, among other things, that even generally accepted concepts in the management of certain diseases should be subjected to repeated investigation from a clinical and experimental standpoint. There are four recently proved facts that, from a theoretic view, make immediate operation at the onset of acute cholecystitis the method of choice. These are: First, the pathologic picture which according to many pathologists is not that of a typical inflammation with polymorphonuclear leukocytes infiltration; second, the absence of bacteria, especially in the early stages; third, the obstruction by stones found in 98 per cent of the cases subjected to immediate operation; fourth, such experimental work as that of Mann, and Aronhson and Andrews showing that intravenous injection of certain substances will produce cholecystitis typical of that found in human beings. Practical experience showing a mortality of 3.5 per cent to 4 per cent in cases of acute cholecystitis subjected to immediate surgical intervention seems to bear out this theoretic conclusion.

If surgical mortality for immediate operation is 3.5 per cent what are the internists going to say about the conservative management of these cases in which they offer a mortality of 3 per cent in a large number of cases? The answer comes in the subsequent course of the 97 other patients who recovered from the conservative management. Many patients are subjected to operation of necessity later and that group will have a mortality which will raise that of the conservative method of management to from six to ten per cent.

Not only in acute cholecystitis is there an initial safe period of 48 hours in which the patient may be operated on to advantage with relative safety, but there follows a danger period of from five to seven days in which bacterial infection is at its height and in which operation is attended with an extremely high mortality. This period of relative safety followed by a period of danger is true for many other diseases, notably acute appendicitis and acute hematogenous osteomyelitis.

Dr. P. B. Salatich (New Orleans): I believe that conservatism should be practiced whenever possible before operation. If a patient has an acute gallbladder, I do not think it is good surgery to operate immediately. I think, if this acute condition is allowed to cool off, patient is built up, and the liver taken care of, the end results will be better than by immediate operation.

With acute gallbladder, I make it a rule to culture all of my gallbladder cases. It is surprising the different kinds of bacteria that are found in chronic gallbladder disease. If bacteria are found in chronic gallbladder cases, there may be an acute exacerbation from the existing infection, that is, in the gallbladder itself. Personally I would rather let a patient remain for a while, treating the patient, relieving the acute symptoms, preparing the liver, and then operate. I believe that the cure is then permanent. Sometimes a gallbladder is taken out and the patient says she does not feel any better than before the operation. A lot is due to the after treatment. Patients should be just as careful in their diet for several months after operation as when you were preparing them for operation.

Dr. J. A. Hendrick (Shreveport): I think if we

get these cases and operate early, we save the liver a lot of damage that will occur if the condition is allowed to exist. I think an important thing is to operate early. The gallbladder should be taken out as quickly as possible. When the stone is taken out the gallbladder separates from the liver easily. I do not think it is a good time to cover up the raw surface. Put in a drain, which can be done in the average case, if not too heavy, in about twenty-five minutes, and give glucose plus dehydration. I think we will have a mortality around three per cent or less and save a lot of liver damage, instead of treating cases until the liver becomes permanently damaged and then operate later.

Dr. O. C. Rigby (Shreveport): I would like to ask Dr. Gage two questions. One is, if we decide to wait any length of time after the initial attack of gallbladder disease, what effect, if any, has he found upon the heart some months or years later? Moynihan, called attention to heart involvement years ago, and made the statement that you often have a diseased heart muscle following chronic gallbladder disease.

Another question, which I have not seen very much about in literature, is gallbladder disease associated with chronic recto-cecal appendix. I would like to know if in his experience he has noticed that condition, and whether or not he thinks it is a diseased gallbladder due to the appendix or whether the diseased appendix is due to gallbladder disease?

Dr. Mims Gage (In conclusion): In reference to Dr. Salatich's low percentage of positive cultures, I wish to state that Dr. Illingworth used a special method to obtain his high percentage of positive cultures. He washed the gallbladder wall in saline then exposed the tissue to be cultured to ultraviolet radiation for one minute. This killed the gross contaminators, the washing removed the bile, and his percentage of positive cultures from chronic cholecystitis was 62 per cent.

I agree with what Dr. Mahorner has said. It was impossible due to limitation of time, for me adequately to discuss the early, delayed, and conservative treatment. A very full discussion will appear in the paper. I emphatically stated that all patients with acute cholecystitis must be individualized and thoroughly prepared before any form of surgical treatment is undertaken.

In answer to Dr. Rigby's question regarding the heart. In cases of chronic cholecystitis, cardiac irregularities are not infrequently found. Paroxysmal tachycardia is one form of cardiac irregularity found associated with chronic cholecystitis and is frequently relieved following cholecystectomy. I would advise that after recovery from an attack of acute cholecystitis, the patient should be encouraged to have the gallbladder removed within six to eight months or earlier. Chronic appendicitis is associated with chronic cholecystitis in 20 to 30 per cent.

ERYTHROBLASTS IN THE CHORIONIC BLOOD VESSELS OF HUMAN EMBRYOS

THEIR IMPORTANCE IN ESTIMATING THE DURATION OF PREGNANCY*

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AND

JOSEPH STASNEY, M. D.†

NEW ORLEANS

The observations of Ryerson and Sanes, which have been confirmed by Ohringer, have established the fact that erythroblasts predominate in the blood vessels of the chorionic villi of the human embryo, rapidly disappear toward the end of the third month of pregnancy, and are practically absent in the chorionic blood vessels of the fetus. These studies have considerable theoretic interest in that they open a new field for the study of the development of red blood cells, and the factors leading to their maturation and preventing their maturation, as in erythroblastosis fetalis. They are also of practical importance in determining the approximate duration of pregnancy, as the investigation to be reported herewith makes clear.

MATERIALS AND METHODS

From routine microscopic preparations of uterine scrapings containing placental tissue obtained by curettage, 38 specimens were selected in which the blood vessels of the chorionic villi contained nucleated red blood cells. Thirty tubal pregnancies removed at operation were also selected, and 12 embryos with cords, placentas and membranes. All the material was fixed in 10 per cent formalin, embedded in paraffin, cut, and stained with hematoxylin and eosin. The proportion of nucleated and non-nucleated red blood cells in the chorionic

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blood vessels of each specimen was then determined.

From the clinical history a tabulation was made of all the data available in each case relevant to the duration of pregnancy. These data included the date of the onset of the last menstrual period, the type of the menstrual cycle, the usual duration of the period, the date of the termination of the pregnancy, and the length of the embryo. The maximum duration of pregnancy was estimated in each case by subtracting the number of days plus one of the usual duration of menstruation from the number of days elapsed between the onset of the last menstrual period and the operation. When the information was stated in general terms, such as "missed one period," or the type of the menstrual cycle was not recorded, the maximum duration of pregnancy was estimated on the basis of a 28-day cycle with five days' duration of the period. A variation of about 10 days in either direction should be allowed in all instances.

OBSERVATIONS

In eight of the 38 specimens of uterine scrapings obtained by curettage, the chorionic blood vessels contained less than 100 per cent erythroblasts. The estimated maximum duration of pregnancy in these eight cases varied between 45 and 84 days, with an average of 65 days. In the other 30 specimens the erythroblast content of the chorionic blood vessels was 100 per cent. The estimated maximum duration of pregnancy varied between 27 and 79 days, with an average duration of 51 days (table I).

TABLE 1

PLACENTAL TISSUES

	Patient	Age and race	Onset of last menst. period	Type of cycle	Termination of pregnancy	Duration of pregnancy. Maximum	Erythroblast : erythrocyte
P-1	S-2003	28 W	11-20-35	regular	12-23-35	27	100 :0
P-2	34-6012	32 C	7-27-34	28 :4-5	9- 1-34	30	100 :0
P-3	35-2667	32 W	3-27-35		5- 6-35	34	100 :0
P-4	37- 26	26 W	11-23-36	28 :4-5	1-4-37	36	100 :0
P-5	33-1777	19 W	2-20-33		4- 6-33	39	100 :0
P-6	S-2973	32 W	1-26-36	30 :4-5	3-14-36	41	100 :0
P-7	37-4157	23 W	6- 1-37	30 :4-6	7-20-37	42	100 :0
P-8	37-5047	30 W	7- 8-37	:7	8-27-37	42	100 :0
P-9	S- 628	37 W	7-16-35	28 :5	9- 4-35	44	100 :0
P-10	S-2464	31 W	12-14-35	21 :4	2- 1-36	44	100 :0
P-11	S-1976	27 W	11- 1-35	29 :3-5	12-21-35	44	100 :0
P-12	S-1143	36 W	8-29-35	28 :3-4	10-18-35	45	100 :0
P-13	34-7936	29 W	10- 2-34	28 :2-6	11-23-34	45	100 :0
P-14	34-6450	29 W	7-29-34	28 :5	9-19-34	46	100 :0
P-15	S- 792	37 W	7-28-35	28 :4	9-18-35	47	100 :0
P-16	37-5653	28 C	7-30-37	28 :5	9-23-37	49	100 :0
P-17	33-5101	30 W	7- 4-33	:2-5	8-29-33	50	100 :0
P-18	S-2984	37 W	1-15-36	regular	3-16-36	54	100 :0
P-19	34-5672	29 W	6-20-34	28 :2-3	8-20-34	57	100 :0
P-20	37-7173	23 W	10- 8-37	30 :5	12-15-37	62	100 :0
P-21	34-5607	23 W			8-18-34		100 :0
P-22	S- 574	37 W			8-29-35		100 :0
P-23	37-1970	40 W			4-16-37		50 :0
P-24	34-5794	47 W	6-10-34	30 :	8-23-34	68	100 :0
P-25	34-1062	17 W	12-10-33	28 :5-6	2-23-34	68	100 :0
P-26	S- 490	33 W	6- 7-35	28 :3-4	8-21-35	69	100 :0
P-27	36-1756	22 W	1- 3-36		3-20-36	70	100 :0
P-28	S-3026	26 W	12-31-35	28 :3	3-19-36	74	100 :0
P-29	33-2900	26 W	3- 8-33		5-31-33	78	50 :0
P-30	34- 631	39 C	11-10-33	28 :3	2- 1-34	79	50 :0
P-31	S-1276	27 W	8- 1-35	28 :3-4	10-29-35	84	95 :5
P-32	34-7786	26 W			11-17-34		88 :12
P-33	S-1499	41 W	9- 1-35	28 :6	11-14-35	67	80 :20
P-34	34-6929	44 W	7-22-34	28 :5	10-10-34	74	80 :20
P-35	34-8345	30 W	10-27-34	30 :4-6	12-20-34	47	75 :25
P-36	34- 71	40 W	11-17-33	28 :3-4	1- 6-34	45	66 :34
P-37	S-2092	41 W	10-15-35	21 :7	1- 2-36	71	34 :66
P-38	34-4582	32 C	4- -34	30 :4-12	7-15-34		5 :95

In the group of 30 tubal pregnancies, the erythroblast content of the chorionic blood vessels was 3 per cent in one case, and the length of the fetus was 100 mm. In the other 29 cases the erythroblast content of the chorionic blood vessels was 100 per cent. The maximum duration of pregnancy was known in 18 of these cases and varied between 26 and 61 days, with an average of 44 days. The length of the embryo was known in 10 instances and varied between 13 and 30 mm. (table II).

TABLE 2
TUBAL PREGNANCIES

	Patient	Age and race	Onset of last menst. period	Type of cycle	Termination of pregnancy	Duration of pregnancy. Maximum	Erythroblast : erythrocyte	Length of embryo. mm.
T-1	35-3361	38 C	5- 1-35		6- 2-35	26	100 :0	13
T-2	37-3196	21 C	5- 7-37	:3	6-12-37	32	100 :0	
T-3	36-8017	23 W	11-20-36	22 :4	12-27-36	32	100 :0	13
T-4	36-2449	36 C	3-23-36	28 :4-5	5- 2-36	34	60 :0	
T-5	35-1966	34 W	2-17-35	28 :3	4- 2-35	40	100 :0	
T-6	35-3546	39 W	4-19-35	28 :5-6	6- 8-35	41	100 :0	
T-7	37-2806	26 C	4- 7-37		5-26-37	43	50 :0	
T-8	35- 874	24 C	12-25-34	28 :4	2-12-35	44	100 :0	
T-9	S-1060	40 W	8-21-35		10-11-35	45	100 :0	13
T-10	37-7267	32 W	11-12-37	21 :	12-24-37	37	100 :0	14
T-11	36- 980	28 W	12-23-35	28 :4-5	2-15-36	48	50 :0	
T-12	37-4892	25 W	6-27-37	28 :3	8-20-37	50	100 :0	18
T-13	36-5762	31 W	7- 1-36		8-26-36	50	100 :0	
T-14	36-1034	36 C			2-20-36		100 :0	20
T-15	34-2331	23 C	2-17-34	28 :5-9	4-20-34	52	100 :0	20
T-16	33-1542	28 W	1-28-33	:2-3	3-25-33	52	100 :0	
T-17	S-3262	34 W	1-27-36		4- 4-36	61	100 :0	20
T-18	36- 376	23 W					100 :0	25
T-19	36-4168	35 W	5-14-36		7- 9-36	50	100 :0	30
T-20	37-4463	25 C			7-31-37		100 :0	
T-21	37-3541	28 C			6-25-37		100 :0	
T-22	34-8449	36 W		28 :2-4	12-30-34		100 :0	
T-23	35-6951	37 W			10-18-35		100 :0	
T-24	33-4337	30 C			7-27-33		50 :0	
T-25	33-6285	31 C			10-21-33		100 :0	
T-26	OS-3712	25 W					100 :0	
T-27	G-3971	33 W					100 :0	
T-28	37-4244	30 C	5-19-37		7-24-37	60	100 :0	
T-29	34-1461	26 W	1- -34	28 :3-5	3-15-34		100 :0	
T-30	36-3558	24 C			6-15-36		3 :97	100

In the group of 12 embryos with cords, placentas and membranes, the erythroblast content of the chorionic blood vessels was 100 per cent (figs. 1 and 2), in all but one

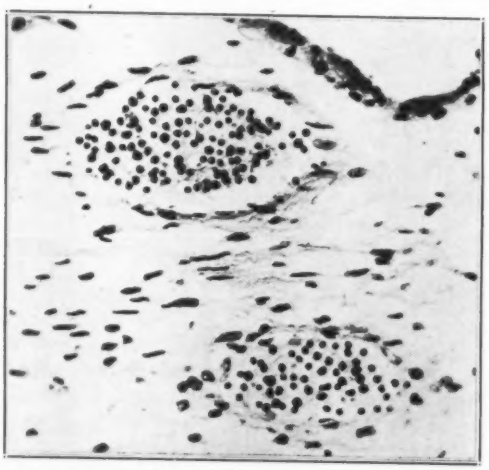

Fig. 1. Chorionic villus from the placenta of a 12 mm. embryo (E-9). The chorionic capillaries contain only nucleated red blood cells.

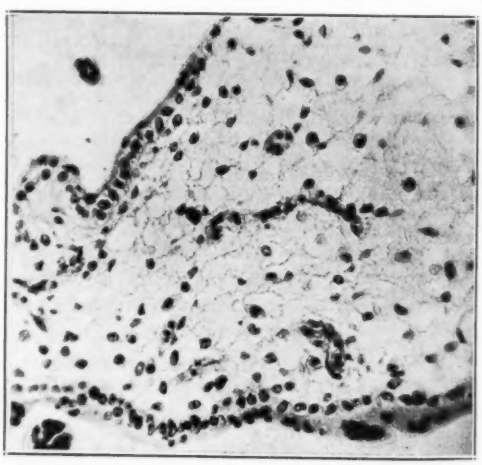

Fig. 2. Chorionic villus from the placenta of a 30 mm. embryo (E-9). The chorionic capillaries contain only nucleated red blood cells.

instance. The estimated maximum duration of pregnancy varied between 34 and 79 days, with an average of 50 days. The length of the embryo was known in 10 instances and varied between 10 and 45 mm. (table III).

TABLE 3

EMBRYOS WITH CORD, PLACENTA, AND MEMBRANES

	Patient	Age and race	Onset of last menst. period	Type of cycle	Termination of pregnancy	Duration of pregnancy. Maximum	Erythroblast : erythrocyte	Length of embryo, mm.
E-1	34-3646	28 W		:8-12	6-11-34		100 :0	small
E-2	8-1802	34 W	10-20-35	28 :5	12- 7-35	42	100 :0	10
E-3	37-7298	26 C	11- 9-37	28-35 :4	12-29-37	45	100 :0	12
E-4	8-2156	39 W	11-15-35	26 :6-7	1- 7-36	45	100 :0	18
E-5	8-2507	35 W	12-16-35	28 :5	2- 5-36	45	100 :0	20
E-6	8-2276	43 W	11-14-35	21 :10	1-16-36	52	100 :0	25
E-7	37-3815	36 C		30 :3	7- 8-37		100 :0	28
E-8	8-3119	41 W	2-15-36	21 :3	3-25-36	34	100 :0	30
E-9	8-2626	40 W	12-25-35	26 :3	2-14-36	47	100 :0	30
E-10	8-2686	29 W		14 :2	2-18-36		100 :0	37
E-11	8-1415	39 W	8-31-35	28 :5	11- 7-35	62	100 :0	45
E-12	35-2954	21 W	2-20-35		5-16-35	79	65 :35	

From the observations made on these three groups of cases it is evident that erythrocytes first appear in the chorionic blood vessels early in the third month of pregnancy and increase to over 90 per cent by the end of the same month.

COMMENT

In the course of the selection of the material studied there was ample opportunity to establish the fact that the blood vessels of the chorionic villi of the fetus contain practically no nucleated red blood cells. The group of tubal pregnancies was chosen for study because gestation in this condition usually terminates before the embryonic stage is ended. Proof as to the duration of pregnancy was conclusive in the cases in which the length of the embryo or fetus was known.

Our observations on these 80 specimens further support the view that the approximate duration of pregnancy can be determined objectively on the basis of the fact that nucleated red blood cells are present in the chorionic blood vessels of the human embryo, and absent in those of the fetus.

SUMMARY

The erythroblast content of the chorionic blood vessels was studied in 80 specimens, consisting of 38 uterine scrapings containing placental tissue, 30 tubal pregnancies, and 12 embryos with cords, placentas and membranes. In 70 specimens the chorionic blood vessels contained only nucleated red blood cells (erythroblasts) and the estimated maximum duration of pregnancy in these cases was two months or less. In the other 10 specimens the chorionic blood vessels contained 90 per cent or more of nonnucleated red blood cells (erythrocytes) and the estimated maximum duration of the pregnancy in these cases was between the second and third months. These observations both confirm and elaborate the observations of Ryerson and Sanes and of Ohringer to the effect that erythroblasts predominate in the blood vessels of the chorionic villi of the human embryo, rapidly disappear toward the end of the third month of pregnancy, and are practically absent in the chorionic blood vessels of the fetus.

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MEDICINE UNDER THE NEW DEAL

Mr. H. L. Mencken, with his customary clever and often satirical pen, pictures the position of doctors were they to be socialized and regimented and put under lay authority. He writes that the doctors first would be employed by lay governmental organizations, then formed into staffs and finally put under non-medical superiors to be hired out to those who subscribe to membership in the organization. If the subscriber pays up, professional services go to him and the monies to the organization. The organization in this sense is the collector of taxes, pays the doctor what it wants and then the physician has to obey whatever he is told to do because he has become a hired man. Patients are not his, they belong to the association. The doctor may be fired as well as hired. Does he have a controversy with the patient or does the patient think that he is not being treated properly he may complain and then the physican will be scolded or even more severely reprimanded, possibly he may be fined. If the patient's family thinks the patient is not recovering sufficiently promptly, if they feel that the man with lobar pneumonia should have had his crisis on the seventh and not the ninth day, or if they feel that the typhoid fever patient should not have had a hemorrhage or if it is their belief that an inoperable cancer should be operated upon, then the doctor will again be reported and again be scolded by the people who are bossing him and who do not know anything about medicine; of course the customer is always right!

This would be a fine state of affairs in a profession which has always given competent and conscientious service. The profession would no longer be a profession, anything but. The physician would become a hired man and his professional status would slowly sink into a sea of muck and mire bound with red tape, to die a horrible professional death.

If the lawyers of the New Deal are anxious to deprofessionalize medicine, why do they not attack their own profession? Efforts have been made to do this in the past but every decent lawyer in America has opposed such a step violently and has even gone into court to prevent it. The law profession realizes that the practice of law by corporations, associations and organizations has deep seated and very real objections. They demur in being organized into gangs controlled by laymen and having their services retailed. Cannot the brilliant advocates of the New Deal who are at-

tempting to bring out legislation which would be destructive to the professional status of the doctor realize from their own feelings about the profession of law that both these two great professions would function more efficiently, more effectively and more ably in an independent category than if they were collected together, ruled by a few people who knew nothing about the historical significance of the great professions and who would ultimately destroy them.

THOUGHTS ON GALL STONES

When a well known surgeon who has had extensive experience reviews his knowledge of a subject, some interesting facts may be brought out. The distinguished surgeon to H. M. the King, Sir Lancelot Barrington-Ward* in the Cressy Memorial Lecture records some of his observations concerning gall stones and the patients having them. Many of the remarks that he has to make are well known, for example that females predominated and they tend to be fat and have had children. It is interesting that males who have calculus cholecystitis usually tend to be thin. Gall stones are by no means uncommon in children. A case of a small girl, aged 9, whose gallbladder had stones is recounted and similarly that of a boy of 7 years of age with a one-half inch stone in his common duct.

The expressions of gall stones vary. Often they are found postmortem, never having produced symptoms and yet on the other hand they may be responsible for excruciating suffering and constant ill health. As a matter of fact pain was the chief symptom in 81 per cent of his cases. Indigestion alone was noted in 10 per cent of patients and in 2 per cent there was a symptomless tumor. The colic shows a strange variability in location; in most instances it is referred to the right hypochondrium and radiates to the right shoulder. At times it is localized in the epigastrium, occasionally in the back and rarely the upper abdomen in general. The physical sign of moment was tenderness in 75 per cent of the patients.

This distinguished surgeon notes a finding which is causing increased interest in the United States, to wit, the relationship of organic heart disease to cholecystitis and cholelithiasis. One of his patients was outstanding in this connection, in that removal of a diseased gallbladder was followed by restoration of a fibrillating heart to normal rhythm and material benefit to this organ.

It is noted that most medical men do not look with favor on operation for gall stones. This attitude is erroneous according to this author. A calculus in the common bile duct is a frequent complication of gall stones and is a serious operative condition, particularly if jaundice is produced. Consequently the mortality from this operation if high. If the gall stones were removed before this complication took place operation could be done with a very low mortality risk.

The operative procedures will not be presented here although it should be noted in passing that during the course of an operation always the common duct should be palpated and a stone, if lying there, should be removed. A stone in the common duct produces quite typical symptoms, the severe colic, the back pain, the chills, jaundice, are too well known to be dilated upon. Once in a while there occurs neither colic nor jaundice and merely indigestion of a duodenal type.

In regard to obstructive jaundice, which may be a complication, he states that this can be cured or relieved by operation. Unfortunately this eminent writer does not tell how obstructive icterus may be differentiated from catarrhal jaundice except by its duration. Unfortunate is the patient who is operated on for jaundice which is thought to be obstructive and which turns out to be infectious or catarrhal.

A rather long paragraph is devoted to whether or not to operate upon a patient who has an acute cholecystitis. One school maintains that the condiiton should be op-

Barrington-Ward, Sir Lancelot: Gall-stones: Ten years' surgical experience, Brit. Med. J., March 4, 1939, p. 431.

erated upon at once for fear of the development of peritonitis, gangrene or perforation and compares acute choyecystitis to acute appendicitis. The school to which Sir Lancelot belongs believes that the inflamed gallbladder cannot be compared to the appendix. The gallbladder has an adequate blood supply and is in close relation to the omentum. If operation is performed, only drainage can be done and a subsequent operation will usually be necessary. For this reason he believes that the patient with acute cholecystitis should be treated expectantly, watched carefully and if there is deterioration of general health then operation is carried out.

The deductions from this series of cases are that on the whole the picture of gall stones is readily recognized, uncomplicated cases can be treated with safety but in order to avoid the late complications which materially raise the mortality there should be early resource to surgery.

THE EFFICACY OF BLOOD BANKS

It has become a very generally accepted procedure throughout these United States in large medical centers to preserve citrated blood to be used when suitable donors are not available or when there is an emergency with immediate need of this body fluid. These so-called "blood banks" have proved their value in the treatment of traumatic hemorrhage and of shock. In these conditions it is largely a question of replacing blood and bringing up the blood volume to approximate normality. On the other hand, transfusion nowadays is extensively employed in the treatment of almost every type of infection of severity and of long duration. The question has been mooted as to the value of preserved citrated blood in the treatment of acute and chronic infections. Kolmer*, in an attempt to elucidate this problem, reports on some very interesting studies that he has recently made. He starts with the assumption that blood is not given in septic states simply to combat a secondary anemia but that the real value of transfusion is to furnish specific and non-specific immune substances from the blood of the donor. In addition to this the leukocytes of fresh blood may have a therapeutic purpose; likewise in hemorrhagic states the platelets presumably have an extremely important role. The whole problem as he sees it is whether or not the citrated blood contains immune bodies, functionally active erythrocytes capable of carrying on internal respiration, and functionally effective platelets.

He studied the effect of sodium citrate on complement, on the bactericidal activity of preserved blood, on the phagocytic activity and on the cellular elements of preserved blood. It is not necessary to recount these studies, largely immunologic and bacteriologic in character. Suffice it to record some of the results and conclusions of this eminent investigator and immunologist who incidentally states that fresh citrated human blood is just as efficacious as whole blood by direct transfusion. He does not believe that the sodium citrate occasions deleterious changes quickly but it takes a short period of time to bring this about.

Kolmer states, in summarizing his experiments, that the bactericidal activity of normal citrated human blood kept at 4°-6° C. was decreased after being kept for seven to twenty-one days. The phagocytic activity of the neutrophils of the preserved blood was definitely reduced within 72 hours after obtaining the blood, markedly so within five days and totally devoid of phagocytic activity after the seventh day of preservation. The red cells within forty-eight hours showed evidence of dehemoglobination and progressive degenerative changes up to two weeks when at least 30 per cent of these cells were abnormal. The polymorphonuclear cells began to disintegrate and to be reduced in number within twenty-four hours after collection, which changes progressed up to the length of time the experiment was carried out, namely fourteen days.

*Kolmer, John A.: Preserved citrated blood "banks" in relation to transfusion in the treatment of disease with special reference to the immunologic aspects, Am. J. Med. Sci., 197:442, 1939.

The platelets were clumped in a short time after citrating the blood, at the end of forty-eight hours they were extremely rare and after five days apparently none remained. He concluded from this study briefly summarized above that while the citrated human blood is useful in the treatment of acute hemorrhage and shock, it is decidedly inadvisable to use this type of preserved blood kept longer than two or three days in order to combat anemia, infections or the blood dyscrasias.

HOSPITAL STAFF TRANSACTIONS AND CLINICAL MEETINGS

HUTCHINSON MEMORIAL CLINIC

New Orleans

Scientific Session conducted by the Department of Otolaryngology, Dr. F. E. LeJeune presiding.

Osteomyelitis of the Frontal Bone with Brain Abscess Following an Acute Frontal Sinus—Case Report (Dr. M. G. Lynch, Department of Otolaryngology): It is unusual in this part of the country to see many cases of osteomyelitis of the frontal bone and for this reason as well as for the interesting neurologic results, I am presenting it.

This is a case report of a white girl, 19 years old, who was admitted to the hospital in a semicomatose condition. The history obtained from the mother was that three weeks prior to admission, she developed an acute cold which was quite severe. Four days following the onset of this cold she went riding in an open car in the night air and, while riding, the car stopped suddenly and she struck her head. Four days later she developed an acute frontal headache which increased to such an extent that all drugs available to her gave no relief and her local physician was called. He gave her morphine for a period of four days, with only temporary relief. After the third day, she began to have nausea and vomiting, he, thinking it was due to the morphine, let her go a day longer when she became semicomatose and was then sent into the hospital.

She was admitted in this condition complaining of severe headache and persistent nausea and vomiting. General examination revealed a well developed and well nourished white girl complaining so much of pain that she could answer questions only vaguely and was aroused with difficulty. Her temperature was 104° with a slow pulse. On local examination, the right side of her nose was found to be filled with thick creamy pus which appeared beneath the middle turbinate as fast as it could be removed. The right upper eyelid was markedly edematous and this edema extended to within an inch of the hair line. There was marked tenderness over the frontal sinus and over the frontal bone. Neurologic examination gave no positive findings except the eyegrounds which showed a choking of four diopters of the right disc and two of the left. Lumbar puncture, except for greatly increased pressure, was normal. A tentative diagnosis was made of acute frontal sinusitis, osteomyelitis of the frontal bone and either extradural or brain abscess. The osteomyelitis and frontal sinusitis was confirmed by x-ray.

External frontal operation was done with an incision extending directly across both eyebrows, then from the lateral extremities of the eyebrows to the temporoparietal suture line. This entire flap was turned back and the anterior posterior walls and the floor of the frontal were removed. The entire frontal portion as well as three-fourths of an inch of the parietal bone was removed en masse by means of trephine openings and then connecting these with a Gigley saw. When this cap of bone was removed, a large extradural abscess was found. When the surface of the dura was cleaned, a lead was found opposite the posterior wall of the right frontal sinus and a brain abscess was opened in the right frontal lobe. This abscess had its posterior wall seven and a half centimeters from the surface of the brain.

These cases have been treated in one of three ways, either by packing with iodoform gauze, drainage by means of a rubber tube, or by means of the Mosher basket. In those patients whom I have had occasion to see and those I have treated myself, the best results have been obtained with the Mosher basket. In the first place, the wound remains open wide so that there is adequate drainage, and, in the second place, granulations and debris can be cleaned every day by curetting the wire. As the abscess heals, the drain is gradually pushed to the surface so that there is no danger of pocket formation as one can see at all times the bottom of the cavity.

This case was treated in this manner and the brain was allowed to herniate; as soon as it had herniated a rubber band was placed around this herniation and the mass allowed to slough off.

Of interest in this girl's case is that practically the entire frontal lobe was lost. The frontal lobe is spoken of as the silent area of the brain, having to do with control of the sphincter muscles, memory and personality. Abscesses or tumors in this area are denoted by changes in personality, loss of memory and incontinence in urine and feces. This case showed all three and is the first case that I have seen showing all three symptoms.

Following the loss of practically the entire right frontal lobe and drainage of the abscess, she re-

gained control of her sphincters, memory returned to such an extent that she could continue in her school work and keep up with the class, but after two years she still shows changes in personality. Where she was a quiet, well behaved, well mannered girl before, she is now noisy, rude, ill tempered and altogether a different person, although she has shown much improvement in the past two years and it is hoped that she will in time return more to the personality that she was before the occurrence of her illness.

Lymphosarcoma of the Tonsil—Case Report (Dr. J. B. Gooch, Department of Otolaryngology): The case that I have to report is one of lymphosarcoma of the tonsil fossa occurring seven years after tonsillectomy in a patient who had had celiac disease and agranulocytic angina.

The first indication of this present illness was noted on December 1, 1938, when she came to the office because of enlarged cervical glands and her mother remarked that her right tonsil "was growing back." Otherwise, there were no symptoms referable to the throat.

From the past history, the patient had recurrent attacks of sore throat and head colds; tonsillectomy and adenoidectomy seven years ago; celiac disease from the age of two to twelve; agranulocytic angina in 1933.

Physical examination revealed bilateral enlargement of the anterior cervical glands, those on the left being larger than the ones on the right; several carious lower molar teeth on each side. The left tonsil fossa and posterior pharyngeal walls were studded with small mass of lymphoid tissue as is frequently seen in patients who have had recurrent acute exacerbations of a chronic sinus infection and long-standing postnasal discharge; mass of lymphoid follicles in the right tonsil fossa simulating a recurrence of tonsil tissue, particularly an upgrowth of the lingual into the tonsil fossa proper. Ears were negative. Nose: superficial veins of anterior-interior part of the septum, turbinates congested, antra clear on transillumination. The cervical adenitis was attributed to dental infection, eradication of which was advised.

She did not return until seven weeks later (January 23, 1939). The carious teeth in the left lower jaw had been removed; the ones on the right remained. The enlarged cervical glands on the left side had practically disappeared; those on the right were still palpable. The lymphoid mass in the right tonsillar fossa had increased several times in size until it now completely filled the fossa and was beginning to extend beyond the pillars. This patient had been under Dr. Levin's care for the past seven years and his records, which he so kindly placed at my disposal, showed that, except for a slight anemia, her general physical examination was essentially negative and that she had been gaining steadily in weight right along.

Diagnosis was made of a definite neoplasm of the right tonsil fossa which, on section, proved to be a lymphosarcoma. Deep x-ray treatment was immediately begun. Two weeks later the growth had reduced one-third in size and one month later it had entirely disappeared. At present, the right tonsil fossa is perfectly smooth and free from all lymphoid tissue. The remaining carious teeth have been removed and the cervical glands are no longer palpable.

It is estimated by various authorities that about 15 per cent of all malignancies of the tonsil are lymphosarcomas. The usual age is after the fourth decade although in Jackson's series of 236 cases, five were in patients between 10 and 19 years of age. The first symptoms in order of frequency were sore throat, unilateral swelling of the neck, enlargement of the tonsil, dysphagia and loss of weight. The later symptoms were: trismus, increasing salivation, constant pain, bleeding, ulceration, and the usual symptoms of metastasis.

The tumor invariably occupied the tonsil fossa, the tonsil being enlarged, often extending beyond the middle line. The consistency of the growth may be rubbery or firm; the surface lobulated, irregular or ulcerated; the color pink, opalescent or its surface may be covered by a membranous exudate. Cervical glandular enlargement was not constant.

Dr. Schattenberg in his discussion will describe the histologic structure of the growth and the essential differential diagnostic points in cervical glandular enlargement.

The ultimate prognosis is bad. Jackson reports only one cure in 31 cases. The average duration of life was 2.5 years; those patients in whom metastasis had taken place when first observed lived an average of 1.7 years while those in whom metastasis had not occurred lived an average of 5.3 years; those with generalized lymphadenopathy, one year, none living after 2.5 years. This author remarked that it was interesting to note that the number of mitotic figures per oil immersion field seemed to give some indication of the ultimate prognosis, those with ten mitotic figures per field lived less than six months; those with five, 1.5 years, and those with only one, 3 years or more.

Costolow's article in the American Journal of Surgery (March, 1934) states that malignancy of the tonsil is usually considered hopeless. Bloodgood and Broden were unable to report a single cure by surgery. A rapidly increasing number of arrests, however, are being reported by the use of radiation. Martin and Pfluger have observed that marked radiosensitivity is common to all pharyngeal tumors and is not entirely confined to any histologic variety. They state that pharyngeal tumors are often more radiosensitive than their histologic counterparts of the adjacent oral cavity, intrinsic larynx or esophagus and that lymphosarcoma is the most radiosensitive of all. The primary involvement in practically all cases can be expected to disappear after radiation. Jackson,

however, warns that initial response is often deceptive, for in 17 of his cases local recurrence rapidly took place, the average being 4.5 months.

In regard to treatment, between 1919 and 1925 radium gold seed implants in the primary lesion and radium over the cervical gland was extensively used. In the later years, deep x-ray therapy has largely replaced radium, the Coutard method of prolonged fractional doses being considered the method of choice. In nine, or 75 per cent, of a series of 12 patients treated by this method, the primary growth had completely disappeared and the patients were symptom free after one year; 33 per cent after three years, and 25 per cent after five.

Dr. Ané will discuss the use of deep x-ray and radium in this and in other lesions which produce cervical glandular enlargement.

The Pathology of Lymphosarcoma of the Tonsil (Dr. H. J. Schattenberg, Department of Pathology): Lymphosarcoma of the tonsil as a rule does not present any difficulty in its recognition from a pathologic standpoint. It is similar to sarcoma noted in other tissues. Sarcoma of the tonsil usually has the appearance of being encapsulated and the capsule of the tonsil may at times serve more or less imperfectly as the capsule of the neoplasm. The tumor grows rapidly and may attain considerable size before the patient seeks medical attention. While sarcoma elsewhere in the body is usually noted in younger individuals, in the instance of the tonsil the age incidence is much higher, more often the fourth, fifth or sixth decade of life. This age incidence makes for confusion in the differential diagnosis since carcinoma of the tonsil also occurs in the fifth or sixth decade.

Grossly, lymphosarcoma of the tonsil is of fairly soft consistency. On cut section it has a light pink or "fish-flesh" appearance. The tumor shows ulceration of the overlying mucosa only at a later stage after it has reached a considerable size. It differs in this respect from carcinoma of the tonsil which ulcerates early. Microscopically, sarcoma of the tonsil is fairly characteristic and constant. It may consist of large round cells, the so-called reticulum cell sarcoma, or when it arises from purely lymphocytic elements it may be made up essentially of small round cells. In either instance, the growth is diffuse and the normal architecture of the gland is soon destroyed. The nuclei are compact and stain deeply. Intercellular structures and blood vessels are scanty. Histopathologically, invasion of capsular structures is noted early. Lymphosarcoma constitutes only 14.5 per cent of the malignancies of the tonsil, carcinoma making up the great majority of the remainder or about 80 per cent. The growth in carcinoma is never as rapid and does not attain the size of lymphosarcoma.

Grossly, the carcinomatous growth is much firmer, cuts with a gritty sensation and has a lighter appearance on section than sarcoma. Yellowish flecks or areas of necrosis may be seen on section. Another characteristic feature is that carcinoma shows ulceration of the overlying mucosa much more constantly than sarcoma.

Histopathologically, several different types of carcinoma are recognized in this anatomic area. Tumors of this type have their origin from the stratified squamous epithelium covering the tonsils or from a similar type of epithelium lining the crypts. They have been designated, bronchiogenic carcinoma, transitional cell carcinoma, endothelioma, or according to European workers, lymphoepithelioma. As a matter of convenience, however, they may be classed as carcinomas of the tonsil.

Histologically, carcinoma of the tonsil consists of cells of epithelial origin which are of varying sizes and of pleomorphic contour. They may be stellate, round, oval or cuboidal. Epithelial pearl formation may be noted in the slower growing less malignant types. In the anaplastic, poorly differentiated highly malignant types, pearl formation is rarely encountered.

Certain non-neoplastic diseases may at times be confused with malignancies of the tonsil. Of these the most common is tuberculosis. Here the histologic picture on biopsy material, however, is very classical and easily makes the differential diagnosis. The routine examination of tonsils removed surgically and examined histopathologically has shown 0.5 per cent to be tuberculous. At an earlier period (1906-1919) Weller examined a series of 860 and found 2.35 per cent to be tuberculous. Syphilis of the tonsil, either mucus patch or chancre, may be encountered but may be diagnosed properly by darkfield, blood or biopsy examination.

The matter of regional or cervical lymph node involvement is of great importance in the instance of tonsillar malignancies. Parker states that in 67 per cent of cases metastasis to cervical nodes has already occurred when the patient is first seen. At first the involved nodes are solitary and movable; later they are matted together. A characteristic feature of sarcoma of the tonsil is that its metastasis is by the lymphatics, whereas when sarcoma occurs in other parts of the body, metastasis is by the blood stream. Prognosis is, of course, best in those cases where the cervical nodes are solitary and movable and poor where they are matted together.

From a prognostic standpoint a pathologic differentiation of cervical lymphadenopathies is desirable. The tuberculous nodes are seen more commonly in children. The infection gains entrance through the tonsils presumably through milk from tuberculous cows. The glands, even at an early stage, are matted together and are caseous. Primary lymphosarcoma of the cervical regions occurs at a much earlier age than that which oc-

curs as a metastasis from the tonsils. In cervical Hodgkin's disease the nodes are slowly involved, at first solitary and at a later period an entire string may be matted together. In myeloid and lymphatic leukemias a large number of nodes are usually involved simultaneously. Blood film examination and leukocyte counts will, of course, make the diagnosis. At times, it may be necessary to resort to biopsy in differentiating cervical lymphadenopathies. This may be extremely dangerous in case of lymphosarcoma which has metastasized to the cervical nodes because during the biopsy procedure some of the neoplastic cells may become disseminated to the internal organs.

The Radiologic Treatment of Lymphosarcoma (Dr. J. N. Ané, Department of Roentgenology): The treatment of malignancy of the tonsil is primarily one of irradiation for two reasons: first, because of the high degree of malignancy of the tumor that is found in this region. In a fairly large series, Pfahler and Vastine found that 87.5 per cent of the carcinomas were of Grades III and IV; Broders' series from the Mayo Clinic showed that 94.1 per cent of the carcinomas of the tonsil were of Grades III and IV. Of the sarcomas, the lymphosarcoma is the most frequent. It is the most radiosensitive of all tumors. The other tumor, which has been mentioned by Dr. Schattenberg is the lymphoepithelioma, which was described by Regaud in 1921; it has a very close relationship to the lymphosarcoma and reacts to the x-ray just as the lymphosarcoma does.

The second point to be considered is the early metastasis of the lesions of the tonsil. In a fairly large series, Parker and Brues found palpable nodes in 67 per cent, and in the series of Pfahler and Vastine 61 per cent of the patients had palpable cervical nodes at the time the patient was first seen. Simmons found histologic evidence of metastasis in 34 per cent of his series with no palpable nodes. On the other hand, Ewing found 72 per cent of 200 cases to be radio-resistant. Coutard considered 62 per cent of his series to be radio-resistant lesions. This explains the rationale of employing the Coutard method of protracted irradiation in the treatment of these lesions. The radiologic treatment of lymphosarcomas varies in different clinics and also with the area involved. At the Mayo Clinic, the lymphosarcomas are considered along with myelogenous leukemia and Hodgkin's disease and classed as lymphoblastomas. This classification was first considered by Mallory. Small doses of irradiation are used to all glandular areas at the first treatment or series of treatments. Subsequently, irradiation is employed only over the involved lymphatic areas. The dose must be increased on subsequent treatments to fields previously irradiated.

In the case of malignancy of the tonsil, where the lesion is localized, large doses are indicated. At the Memorial Hospital 300 r or 400 r are given on alternate days to the right and left sides of the neck. The lymphatic nodes of the area must be included in the first series. The total dosage is brought up rather quickly to a total of 3,000 r to 4,000 r to each field. In general, however, the treatment of lymphosarcoma is similar to other malignancies of the tonsil: first, external irradiation, either by means of x-ray by the protracted or Coutard method employing at least 3,000 r to each part, or by radium bomb. This may be followed by local implantation of radium or radon to any residual lesions remaining. As mentioned previously, the lymphosarcoma is very sensitive to irradiation and it is believed that the best results can be obtained with adequate therapy. In those cases with extension of the lymphosarcoma to other organs, the rule applying to Hodgkin's disease and the leukemias should hold, that is, small amounts of irradiation over the entire lymphatic system.

I have lantern slides of one case showing the results of irradiation therapy in a case of Hodgkin's disease. The lymphosarcomas, as a group, are slightly more sensitive than Hodgkin's disease to irradiation therapy. (Slide). This is a case of a young male, 30 years of age, who complained of weakness and some anemia. He was seen about the beginning of 1934. There was involvement of the lymphatics of the mediastinum, cervical and supraclavicular regions. There also was evidence of involvement of the parenchymatous lungs. Because of the widespread involvement, small doses were employed. Approximately, 150 r were applied to the region of the mediastinal lymphatics and also to the supraclavicular region. About two weeks later, the same dosage was repeated again. (Slide 2): This film was made approximately one year afterwards, about 1935; there has been a marked reduction in size of the lymph nodes. The palpable nodes disappeared entirely. He has never had any recurrence to the chest.

I saw this patient a week ago. At that time his chest was still normal, and there was no evidence of palpable nodes.

Physiology of the Larynx: Dr. F. E. LeJeune, Department of Otolaryngology. This was demonstrated by a series of motion pictures.

J. T. NIX CLINIC

New Orleans

At the meeting held in April, Drs. L. A. Fortier and T. T. Gately presented the following paper:

LEGG-PERTHE'S DISEASE

There are a number of diseases of various individual bones called by the names of the men who originally described them, which, in recent years, the profession has gradually begun to believe are identical processes or, at most, different phases of the same disease process. The roentgen ray has played a foremost part in their recognition and

study. The first of the diseases was described by Osgood in 1903 as a non-traumatic disease of the tibial tubercle: the so-called Osgood-Schlatter's disease. Kohler in 1908 described the same condition in the tarsal scaphoid bone and patella. Legg, Calve, and Perthe in 1910 independently reported the same changes in the capital epiphysis of the femur, now called Legg-Perthe's disease, the subject of this discussion.

In later years the disease was reported in the following sites: Os calcis by Sever (1912); head of second metatarsal by Freiberg (1914); vertebral epiphysis by Scheurman (1921); olecranon, greater and lesser trochanters, by Monde Felix (1922); sternal end of clavicle by Friedrich (1924); pubis by Van Neck (1924); iliac crests by Buchman (1925); heads of metacarpal bones by Mauclaire (1927); astragalus by Mouchet (1928); upper end of tibia by Ritter (1929); internal epicondyle of humerus by Lohr (1930); and the epiphysis of the first metatarsal by Wagner (1930). Brailsford reports having seen the disease in the superior lip of the acetabulum, the vertebral body, the femoral neck, the neural arch of the fifth lumbar, the accessory tarsal scaphoid and the pisiform.

The group as a whole has come fairly generally to be called osteochondritis; aseptic necrosis; or subchondral necrosis. The etiology remains unknown, and attempts to reproduce the disease experimentally have been unsuccessful. Infection was thought originally to be the cause in some cases, as organisms were recovered by some investigators from biopsy specimens. Harbin grew Staphylococcus albus aerobically and anerobically from one case, but got negative cultures from several other similar cases.

A disturbance in blood supply resulting from trauma to a growth center has been blamed for the condition. The appearance of the disease in several members of the same family and the involvement of multiple major growth centers in the same individual would tend to discount trauma as a causative factor. Heredity is suggested by Hanson who observed the vertebral type in a child, parent and grandparent. Tuberculosis, disturbances of the sympathetic innervation and endocrine dyscrasias have all been suggested as causes. Harbin believes there are different types of the disease and possibly several different etiologic factors.

The most common location of the disease is in the developing femoral head. Legg-Perthe's disease, or osteochondritis deformans juvenilis, is clinically seen more frequently in boys than in girls, and is usually unilateral, but may be bilateral. The age period is three to twelve years, most frequently occurring in the six to eight year period. Pain may be absent or mild and may be referred to the knee rather than the hip. Limping may be the only symptom. Radiographically the earliest sign is a convexity of the upper border of the neck of the involved femur as compared with the straight line of the opposite side. This was noticed by Gage (British Journal of Radiology, 1933) in a radiograph three weeks following injury in a patient who later developed Perthe's disease. On checking over thirty previous cases of Perthe's disease the same convexity was found. It contributes to the well known thickening of the neck in advanced cases. The next earliest sign is an apparent increase in density of the suspected bone which may be due to an interference with the blood supply and may be intensified by a slight decalcification of the surrounding bones, because of disuse occasioned by the pain from the lesion. Later the head becomes flattened and fragmented and if the part is not put to rest at this stage marked pressure changes may occur. The head may become mushroomed and the acetabulum develop irregularly. The joint space, however, is preserved. True arthritis does not play a part in the process but may develop in later years from mechanical irritation from the deformed head.

The prognosis is uniformly good for healing. They all heal and the good or bad end-results will depend on the amount of deformity which has been produced in the head and acetabulum by pressure. The duration of the disease is commonly three to four years, but may be shortened or prolonged in individual cases.

Legg-Perthe's disease has been often confused with tuberculosis in the past, causing much unnecessary concern on the part of patients and parents but with the advent of better and more frequent radiographs and an increased knowledge of the radiographic findings in the various stages such mistakes are being held to a minimum.

REFERENCES

Brailsford, J. F.: Radiology of Bones and Joints, 1934.

Gage, H. C.: A possible early sign of Perthe's disease, Brit. J. Radiol., 6:295, 1933.

Harbin, M.: Osteochondritis, focal and multiple, Am. J. Roentgenol. & Radium Therapy, 29:763, 1933.

Harbin, M., and Zollinger, R.: Osteochondritis of the growth centres, Surg. Gynec. Obst., 51:145, 1930.

Hodges, P. C., Phemister, D. B., and Brunschwig, A.: Roentgen ray diagnosis of diseases of bone. Nelson's Loose Leaf Diagnostic Roentgenology.

TRANSACTIONS OF ORLEANS PARISH MEDICAL SOCIETY

CALENDAR

May 1. Board of Directors, Orleans Parish Medical Society, 8 p. m.
Clinico-pathologic Conference, Hotel Dieu, 8:15 p. m.

May 2. Eye, Ear, Nose and Throat Hospital Staff, 8 p. m.

May 3. Radio Talk, Orleans Parish Medical Society, 9:15 to 9:30 a. m., WDSU.

Clinico-pathologic Conference, Charity Hospital and L. S. U., 2 p. m.
Hutchinson Memorial Clinic Staff, 8 p. m.
Mercy Hospital Staff, 8 p. m.

May 4. Clinico-pathologic Conference, Touro Infirmary, 11:15 a. m. to 12:15 p. m.

May 8. Orleans Parish Medical Society, 8 p. m.

May 9. Eye, Ear, Nose and Throat Club, 8 p. m.

May 10. Radio Talk, Orleans Parish Medical Society, 9:15 to 9:30 a. m., WDSU.
Clinico-pathologic Conference, Charity Hospital and L. S. U., 2 p. m.
Touro Infirmary Staff, 8 p. m.

May 15. Hotel Dieu Staff, 8 p. m.

May 16. Charity Hospital Medical Staff, 8 p. m.

May 17. Radio Talk, Orleans Parish Medical Society, 9:15 to 9:30 a. m., WDSU.
Clinico-pathologic Conference, Charity Hospital and L. S. U., 2 p. m.
Charity Hospital Surgical Staff, 8 p. m.

May 18. Clinico-pathologic Conference, Touro Infirmary, 11:15 a. m. to 12:15 p. m.

May 19. I. C. R. R. Hospital Staff, 12 Noon.
New Orleans Dispensary for Women and Children Staff, 8 p. m.

May 22. Joint Meeting of the Orleans Parish Medical Society and the Tuberculosis and Public Health Association of Louisiana, 8 p. m.

May 23. Baptist Hospital Staff, 8 p. m.

May 24. Radio Talk, Orleans Parish Medical Society, 9:15 to 9:30 a. m., WDSU.
Clinico-pathologic Conference, Charity Hospital and L. S. U., 2 p. m.
French Hospital Staff, 8 p. m.

May 25. Clinico-pathologic Conference, Touro Infirmary, 11:15 a. m. to 12:15 p. m.
L. S. U. Faculty Club, 8 p. m.

May 31. Radio Talk, Orleans Parish Medical Society, 9:15 to 9:30 a. m., WDSU.
Clinico-pathologic Conference, Charity Hospital and L. S. U., 2 p. m.

During the month of April, the Society held one joint scientific and first quarterly executive meeting. The following program was presented:

Bacillus Pyocyaneous Meningitis; A Report of Six Cases—By Dr. John H. Musser and, by invitation, Dr. R. A. Wise.

The paper was read by Dr. Wise and discussed by Drs. Musser and George Fasting.

Toxicity of Sulfanilamide and Related Componds—By Dr. Clyde Brooks.

Discussed by Drs. Allan Eustis and H. W. E. Walther.

Tic Douloureux—By Dr. Dean Echols.

Discussed by Drs. Gilbert C. Anderson, George Fasting and Erwin Wexberg.

At this meeting the Society voted favorably on a resolution authorizing the signing of newspaper articles to be approved by the Publicity Committee of the Orleans Parish Medical Society.

The Society also voted to have the second Monday of the month serve as the regular meeting date since the recent ruling for one meeting a month.

The secretary's office has been very busy during the past month working on forms from the American Medical Association regarding study and provision of medical care. The members are urged to fill in these forms at once and return them to the office.

Drs. Lee-Russell B. Centanni and Karl L. Dickens were elected to active membership.

On March 13, Dr. Don Julian Graubarth addressed the Parent-Teacher Association of the Isidore Newman Manual Training School.

The following members of the society attended the meeting of the Second District Medical Society at Kenner on March 16: Drs. C. Grenes Cole, Charles F. Gelbke, Roy B. Harrison, Cassius L. Peacock, Paul T. Talbot, and Robert M. Willoughby.

Drs. Waldemar R. Metz and John T. Sanders attended a meeting of the Seventh District Medical Society in Crowley, March 23.

Drs. William Harvey Perkins and Julius Lane Wilson attended the annual convention of the Louisiana Public Welfare Association, March 31-April 1.

Dr. C. J. Tripoli left April 8 for Athens, Greece, to be gone six weeks as chief consultant in medicine for the William G. Helis Oil Corporation.

Dr. Alton Ochsner addressed the Spokane Surgical Society, Spokane, Washington, on April 8. On April 13-15 Doctor Ochsner was the guest speaker of the Arizona State Medical Society at Phoenix, Arizona.

Dr. Michael E. DeBakey addressed the East Baton Rouge Parish Medical Society on April 12.

Dr. Theodore J. Dimitry was a guest speaker before the Congress of Eye, Ear, Nose and Throat Specialists at Fort Worth, Texas, April 15.

Dr. Otto Joachim has been re-elected for a tenth term as president of the Louisiana League for the Hard of Hearing. Drs. Frank R. Gomila and A. I.

Weil were named vice-presidents. On the board are Drs. Val Fuchs and William Wagner.

Dr. Sydney Jacobs was appointed State Chairman of the Early Diagnosis Campaign of the Tuberculosis and Public Health Association of Louisiana.

Drs. Emma Sadler Moss and Chester Sebastian Fresh were named as associates of the American College of Physicians recently.

The following officers of Baptist Hospital Staff were installed at the staff dinner: Dr. E. Z. Browne, president; Dr. Charles L. Cox, vice-president; Dr. Garland Walls, secretary, and Dr. Robert F. Sharp, treasurer.

Drs. B. I. Burns and Wilbur C. Smith attended the fifty-fifth annual meeting of the American Association of Anatomists in Boston, April 6-8.

Dr. Béla Halpert presented a paper at the meeting of the American Association of Pathologists and Bacteriologists in Richmond, Virginia, April 6-7. This paper, by Drs. Rigney D'Aunoy, Bjarne Pearson, and Béla Halpert, was entitled "Carcinoma of the Lung: an Analysis of 74 Necropsies."

Dr. Philip J. Bayon addressed the Health Builders Club on April 11.

Dr. Lucien A. LeDoux, Councilor from Louisiana of the Southern Medical Asociation, met in Memphis recently with the Committee on Arrangements for the coming meeting of the Association in November.

Dr. Isidore Cohn, Associate Director of the Department of Surgery, Graduate School of Medicine, Louisiana State University Medical Center, addressed the Kiwanis Club, of Columbus, Georgia, at their luncheon meeting, March 28. Dr. Cohn's subject was "The Relation of the Medical Profession to the Public." On the evening of the same day, Dr. Cohn spoke at Muskogee University on "Reflections on Surgery of the Gall Bladder and Biliary Tract."

On March 29, Dr. Cohn attended a meeting of the Appendicitis Committee of the Southern Medical Association at Nashville, Tennessee.

Dr. Gilbert C. Anderson attended the meeting of the Harvey Cushing Society at New Haven, April 6-8. This Society, which is composed chiefly of Dr. Cushing's former pupils and associates, met at the Yale Medical School for the celebration of Dr. Cushing's seventieth birthday. Dr. Cushing is now Professor of Neurological Surgery at Yale and was formerly head of the Department of Surgery in the Harvard University School of Medicine. Dr. Dean Echols attended as a guest of the society.

Dr. Urban Maes attended the meeting of the Society of Clinical Surgeons in Nashville, April 13-15.

Members attending the meeting of the Medical Association of the State of Alabama, April 18-20, in Montgomery, were Drs. Clyde Brooks, Hiram W. Kostmayer, Maxwell E. Lapham and Julius Lane Wilson.

Drs. Hilliard E. Miller and E. Perry Thomas attended the meeting of the Chicago Gynecological and Obstetrical Society on April 20.

Dr. Morris Shushan was certified by the American Board of Internal Medicine.

Dr. Rufus H. Alldredge was granted a fellowship by the Nemours Foundation in Wilmington, Delaware, for research to aid crippled children.

A Speakers' Bureau is being formed in the Orleans Parish Medical Society for the purpose of giving addresses on medical economics and medical subjects to lay organizations. Members are requested to take part in this movement.

TREASURER'S REPORT

Actual book balance 2/28/39	$4,723.04
March credits	$1,760.20
Total credits	$6,483.24
Expenditures	$1,393.55
Actual book balance 3/31/39	$5,089.69

LIBRARIAN'S REPORT

During March, 58 volumes have been added to the library. Of these 12 were received by binding, 38 by gift, and 8 from the New Orleans Medical and Surgical Journal.

The library has loaned to physicians during March, 1,106 books and journals, or approximately two to each member of the society. In addition 1,074 items have been loaned to students for overnight use, making a total of 2,180 for the month.

Members of the staff have collected material on the following subjects during the month:

Dermatitis from carbon paper.
Peyronie's disease.
Insulin in treatment of diseases of the ear.
Urticaria from pituitrin.
Acacia in treatment of nephrosis.
Treatment of typhoid with vaccine.
Emotional factor in disease.
Injuries to the ear from electric shock.
Postoperative emotional stability.

Mouth lesions in leukemia.
Fractures of the malar bone.
Perforation in bacillary dysentery.
Fee splitting.
Arteriosclerotic gangrene.
Pneumonia.
Migraine.
Nervous complications in convalescence.

This notation does not include the great number of questions which are answered at once by consultation of a reference book or by the use of the card catalogue.

NEW BOOKS

Laignel-Lavastine, M.: Concentric Method in the Diagnosis of Psycho-Neuroses, 1931.

Callendar, C. L.: Surgical Anatomy, 1939.

Cutler, Max: Cancer, 1938.

Hinsie, L. E.: Concepts and Problems of Psychotherapy, 1937.

Guedel, A. E.: Inhalation Anesthesia, 1937.

Niemoeller, A. F.: Superfluous Hair and Its Removal, 1938.

Niemoeller, A. F.: Feminine Hygiene in Marriage, 1938.

Kirk, J. B.: Manual of Practical Tropical Sanitation, 1937.

Kilduffe, R. A.: Clinical Urinalysis and Its Interpretation, 1937.

Gilbert C. Anderson, M. D.,
Secretary.

LOUISIANA STATE MEDICAL SOCIETY NEWS

CALENDAR

PARISH AND DISTRICT MEDICAL SOCIETY MEETINGS

Society	Date	Place
East Baton Rouge	Second Wednesday of every month	Baton Rouge.
East and West Feliciana	First Wednesday in June	Jackson.
Morehouse	Second Tuesday of every month	Bastrop.
Orleans	Second and fourth Monday of every month	New Orleans.
Ouachita	First Thursday of every month	Monroe.
Sabine	First Wednesday of every month	
Second District	Third Thursday of every month	

THE STATE MEETING

The annual meeting of the Louisiana State Medical Society occurred too late in April to record any of the activities which took place during the meeting, whether social, scientific or business. Full account will appear in a later number of the Journal.

SECOND DISTRICT MEDICAL SOCIETY

The quarterly meeting of the Second District Medical Society was held at La Place, La., on April 20, with Dr. J. E. Clayton presiding and Dr. F. S. Herrin as Secretary.

Our Society was honored by the presence of Dr. J. A. O'Hara, President of the Louisiana State Medical Society, and Dr. C. L. Peacock, President of the Orleans Parish Medical Society.

The scientific program was most interesting and educational.

Dr. Emmett Irwin of New Orleans discussed the surgical phase of gallbladder disease, illustrated with interesting diagnostic drawings showing numerous anomalies of the arterial supply of the gallbladder which at times may occasion serious complications in gallbladder surgery.

The second speaker of the evening was Dr. William Heyerdale, a member of the Mayo Clinic. His subject was, "Retrograde Injection of the Great Saphenous Vein", illustrated with a beautiful moving picture demonstration of the technical procedure as used by the author.

Both talks were discussed by many of the physicians present.

Following the scientific program, a banquet was served, Dr. W. F. Guillotte acting as host.

Those present were: Drs. J. S. Kopfler and C. F. Gelbke, Jefferson Parish; Drs. J. S. Parker, E. P. Feucht, and W. F. Guillotte, St. John Parish; Drs. J. E. Clayton, F. S. Herrin, P. T. Landry, C. Gill, St. Charles Parish; Dr. William Heyerdale from the Mayo Clinic; Drs. A. V. Friedrichs, J. A. O'Hara, L. J. Menville, C. L. Peacock, E. L. Erwin, P. B. Salatich and D. N. Silverman, Orleans Parish.

F. S. Herrin, Secretary.

FOURTH DISTRICT MEDICAL SOCIETY

One hundred and twenty-five doctors from South Arkansas, East Texas, and North Louisiana enjoyed a delicious dinner on March 14, given by Shreveport Charity Hospital. Following dinner, the meeting of the society was called to order at 8 p. m. by the president, Dr. Sam Kerlin.

Dr. D. B. Barker, of Alexandria, announced the April meeting of the Louisiana State Medical Society at Alexandria, and told about the fine things in store for us there at that time.

SCIENTIFIC PROGRAM

Dr. H. F. Arbuckle, Assistant Professor of Otolaryngology at Washington University, St. Louis, was the principal speaker of the evening. Dr. Arbuckle's work in bronchoscopy is widely known. Using lantern slides to illustrate the various lung affections, he pointed out the importance of bronchoscopic examination in the diagnosis and treatment of foreign body in the lung, bronchiectasis, carcinoma of the lung, lung abscess, hemorrhage from the bronchial tube, and in some cases of tuberculousis. Dr. Arbuckle stated that, in his experience, surgical resection was the only cure for carcinoma of the lung. He pointed out the relatively mild symptoms caused by early bronchial carcinoma. He stated that with the exception of tuberculosis and lung abscess, the most frequent causes of hemorrhage were carcinoma and abscess, and that when medical treatment failed to control the hemorrhage, endobronchial suction and sometimes packing were done. He pointed out the importance of bronchoscopy in bronchiectasis because of the frequency with which foreign bodies are found. Dr. Arbuckle's instructive lecture was discussed by Drs. Crebbin, Gorton and Browning.

The second paper of the evening, entitled "Dental Disease in an Aboriginal Group," was given by Walter T. Colquitt, D. D. S., and C. H. Webb, M. D. Dr. Webb, during the past few years, has unearthed some twenty Indian skulls from various Indian mounds in north Louisiana. Dr. Colquitt interpreted the dental findings in these skulls. The interesting findings were that skulls taken from mounds at Belcher, showed dental disease comparable to dental disease prevalent in the present generation, while skulls taken from mounds near Gahagan, on the Red River, showed excellent dentition with fine arch formation and practically no dental disease. At first it appeared strange that two groups of people living only a few miles apart between 200 and 550 years ago should present such different findings. Further investigation, by a study of the pottery and ceremonial equipment found in the separate mounds, revealed that the Indians near Gahagan migrated from the coast of Florida up the Red River to the point where their skulls were found, and that their diet had contained an abundance of sea food. The Indians near Belcher, were agriculturists and their diets had consisted mainly of vegetables and grain with only a minimum of fish or sea food. Dr. Colquitt stated that these findings were in keeping with those of other research workers on this subject. This paper was discussed by Drs. Lebo, Johnson and Crebbin. Many of the Indian skulls were on display for examination.

N. J. Bender, M. D., Sec.

SIXTH DISTRICT MEDICAL SOCIETY

The spring meeting of the Sixth District Medical Society was held Thursday, April 13, at Our Lady of the Lake Sanitarium in Baton Rouge.

The scientific program consisted of two papers: "Treatment of Pneumonia" by Dr. J. H. Musser, of New Orleans; "Infections of the Face" by Dr. Charles McVea, of Baton Rouge.

The following officers were elected for the ensuing year: Dr. H. A. Folse, Donaldsonville, president; Drs. D. C. Brumfield, Darrow; J. J. Ayo, Jackson; Cecil Lorio, Baton Rouge; W. E. Barker, Plaquemine; W. F. Bray, Springfield; Glenn J. Smith, Hammond; M. O. Becnel, New Roads; C. S. Toler, Greensburg; H. E. Gautreaux, Covington; A. W. Martin, Bogalusa; Paul Landry, Port Allen; C. C. Blakeney, St. Francisville, Vice-presidents; Dr. E. M. Robards, Jackson, secretary; Dr. Cecil Lorio, Baton Rouge, treasurer; W. E. Barker, Plaquemine, delegate.

E. M. Robards, M. D., Sec.

SEVENTH DISTRICT MEDICAL SOCIETY

The fourth quarterly meeting of the Seventh District Medical Society was held at the Egan Hotel in Crowley on March 23, with Dr. E. C. Faulk, president, presiding. The banquet, which was prepared by the St. Michael School League, was served in the main dining room.

Following the transaction of routine business, officers for the ensuing year were elected. Dr. Charles O. Frederick, Lake Charles, was elected president; Dr. J. J. Stagg, Eunice, vice-president; Dr. W. A. K. Seale, secretary-treasurer; Dr. E. C. Faulk, Rayne, delegate; D. E. L. Landry, Opelousas, alternate. It was decided to recommend Dr. Claude A. Martin, Welsh, for re-election as Councilor of the Seventh District.

Drs. Lawrence Spitzer, Kinder; Clifford Keller, Church Point; and G. E. Barham, Lake Charles, were elected to membership.

Motion was made and carried authorizing the secretary-treasurer of the society to notify State and U. S. Senators and Congressmen of the membership's opposition to the Wagner Bill.

The scientific program consisted of two papers presented by guest physicians from New Orleans. Dr. W. D. Metz's interesting paper on "Primary Plastic Repair of Facial Injuries" was supplemented with lantern slides; Dr. J. T. Sanders spoke

on "Dysmenorrhea." Both guest speakers were made honorary members of the society.

The next meeting of the society will be held in Jennings.

J. W. Faulk, M. D., Sec.

VERMILION PARISH MEDICAL SOCIETY

A meeting of the Vermilion Parish Medical Society was held in Abbeville on March 28. Officers elected for the coming year were as follows: Dr. J. T. Abshire, Kaplan, president; Dr. Adolph Landry, Delcambre, vice-president; Dr. M. A. Young, Abbeville, secretary-treasurer; Dr. Leo Saportio, Kaplan, delegate; Dr. Thomas Latiolais, Kaplan, alternate.

Members of the society unanimously rejected plan for medical care for FSA families in Vermilion Parish, believing that the amount to be allowed per family for medical attention was not sufficient.

M. A. Young, M. D., Sec.

OUACHITA PARISH MEDICAL SOCIETY

The regular meeting of the Ouachita Parish Medical Society was held in Monroe, April 6, at 7:30 p. m., Dr. John Pracher, president, presiding.

The scientific program consisted of two presentations: Dr. Eugene H. Countiss, of New Orleans, spoke on "The Treatment of Cervicitis." Discussion was opened by Dr. Talbot. The second paper, "Secondary Infection of Fungus Dermatitis," was read by Dr. C. Barrett Kennedy, also of New Orleans, and was discussed by Drs. Wood, Talbot and Guerriero.

Letter from the secretary-treasurer of the State Medical Society in regard to medical survey of the A. M. A. was read. Action was deferred until the next meeting.

L. L. Titche, M. D., Sec.

JACKSON-LINCOLN BI-PARISH MEDICAL SOCIETY OFFICERS, 1939

President: Dr. Joe Smith, Dubach.
Vice-President: Dr. J. B. Harris, Ruston.
Secretary-Treasurer: Dr. R. H. Allen, Ruston.
Delegate: Dr. M. T. Green, Ruston.
Alternate: Dr. J. E. Crawford, Ruston.

IBERVILLE PARISH MEDICAL SOCIETY

President: Dr. W. E. Barker, Jr., Plaquemine.
Vice-President: Dr. F. O. Tomeny, White Castle.
Secretary-Treasurer: Dr. E. C. Melton, Plaquemine.
Delegate: Dr. R. J. Spedale, Plaquemine.
Alternate: Dr. W. R. Barker, Jr., Plaquemine.

MEDICO-MILITARY COURSE

Eighty-seven Medical Reserve Officers in the Fourth Corps Area registered for the second Medico-Military Inactive Duty Training Course which began at Tulane University Tuesday, April 11, 1939.

The course consisted of all day instruction by the faculty of the School of Medicine of Tulane University and by Military Officers assigned by the Surgeon General's office for this purpose.

There was a very interesting and instructive exhibit of Aviation Medicine which was demonstrated by a Medical Officer of the United States Army. This was well attended and aroused much favorable comment.

Two afternoons were spent at the Marine Hospital where, in addition to other things of interest, fever therapy was demonstrated.

The course closed at noon on Saturday, April 22, 1939, after seventy-one hours of intensive instruction.

AMERICAN ASSOCIATION FOR THE STUDY OF GOITER

The annual meeting of this organization will be held May 22-24, 1939, in Cincinnati. An excellent program has been provided which includes not only formal papers by such men as Thompson of Chicago, Tinker of Ithaca, Haines and Magath of Rochester, Crile, Jr. of Cleveland, Guthrie of Sayre and Cutler of Boston, but also operative clinics at the various Cincinnati Hospitals and dry clinics as well. The Van Meter Prize Essay will be delivered on Tuesday afternoon, May 23.

THE LOUISIANA STATE PEDIATRIC SOCIETY

The eleventh annual session of this organization was held in Alexandria, April 24, at the Bentley Hotel with the president, Dr. Ruth Aleman, in the chair. At the morning session a paper on "Nephritis in Children" was read by Hugh L. Dwyer, Associate Professor of Pediatrics, School of Medicine, University of Kansas; and "Present Day Concepts of Tuberculosis in Children" by Julius Lane Wilson, Associate Professor of Medicine, Tulane University School of Medicine. After a delightful luncheon the meeting reconvened at a dinner session that evening. The presentation that night was on "Jaundice in the New Born" by Hugh L. Dwyer.

AMERICAN HEART ASSOCIATION

The fifteenth annual scientific sessions of the American Heart Association will be held in St. Louis, May 12 and 13, at the Hotel Jefferson. The heart program will take place on Friday and the program for the study of the peripheral circulation on Saturday. Numerous outstanding men will participate in the programs, including Drs. C. S. Burwell, H. L. Blumgart and P. D. White of Boston. Dr. William A. Sodeman of New Orleans will present a paper. The Lewis A. Conner Lecture

will be delivered by Dr. Harry Goldblatt of Cleveland. On the program of the section for the study of the peripheral circulation, Dr. J. Ross Veal, formerly of New Orleans and now of Washington, D. C., will appear. Also on this program are Drs. E. A. Hines, Jr., Rochester; W. M. Yater, Washington, D. C.; L. G. Herrmann, Cincinnati. The George Brown Memorial Lecture will be delivered by Dr. Cecil K. Drinker of Boston.

The Twelfth Graduate Fortnight of The New York Academy of Medicine will be held from October 23 to November 3, 1939. The subject of this year's fortnight is "The Endocrine Glands and Their Disorders." The purpose of the fortnight is to make a complete study and authoritative presentation of a subject of outstanding importance in the practice of medicine and surgery. Complete program and registration blank may be secured by addressing Dr. Mahlon Ashford, The New York Academy of Medicine, 2 East 103 Street, New York City.

The annual meeting of the American Rheumatism Association will be held on Monday, May 15, in the Roof Solarium of the Chase Hotel, St. Louis, Missouri.

TOURO MEDICAL STAFF MEETING

A regular meeting of the medical staff of Touro Infirmary was held on Wednesday, April 12, at 8 p. m. Following the clinicopathologic conference conducted by Dr. John A. Lanford, two papers were presented. Drs. Isidore Cohn and Marshall Michel presented a paper on "Osteomyelitis of Ilium"; Dr. R. S. Crichlow spoke on "The Use of Prontosil in Infections of the Eye."

Fairchild Bros. and Foster announce with deep sorrow the death of their President, Mr. Benjamin T. Fairchild, on Saturday, March 25, 1939.

HEALTH OF NEW ORLEANS

The Department of Commerce, Bureau of the Census, reports that for the week ending March 18 there were 156 deaths in the City of New Orleans, divided 81 white and 75 ngero. This was a pronounced drop in the death incidence of the preceding week, when 210 fatalities were recorded. There were 13 deaths in children under one year of age, divided 12 negro and one white. For the week which came to a close March 25, the number of deaths was almost identical with that of the preceding week, namely 152, of which 96 were in the white and 56 in the negro population. A sharp rise in the infant mortality was noted, there being 21 deaths in children under one year of age, the great majority in the negro population. For the week which terminated April 1, again the number of deaths was almost identical with that of the previous week. There were 155 deaths in the city of which 102 were in the white and 53 in the negro race. Again the infant mortality was high with 22 deaths in infants under one year of age. April 8 closed a very healthy week in the City of New Orleans. One hundred and thirty-three people died of whom 75 were white and 58 negro; only 11 small children died.

INFECTIOUS DISEASES IN LOUISIANA

Dr. J. A. O'Hara, epidemiologist for the State of Louisiana, has furnished us with the weekly morbidity reports for the state, which contain the following summarized information: A mild epidemic of measles which had been prevalent throughout the state, as indicated by 201 cases of measles recorded for the week ending March 11, was still active in the state. One hundred and fifty-four cases of this disease were listed for the week ending March 18. Next in order of frequency of diseases occurring in numbers greater than ten were 148 cases of syphilis, 50 pneumonia, a decrease of nearly 100 per cent from the preceding week, 36 of gonorrhea, 34 of pulmonary tuberculosis, 29 of chickenpox, 27 of influenza, a decrease from 82 the previous week, 14 of cancer and 12 of diphtheria. There were 17 cases of typhoid fever listed this week, six of which originated in New Orleans and four in Caddo Parish. There were two cases of tularemia reported, one from Franklin and one from West Carroll Parish; two cases of smallpox, both from Acadia Parish, were reported. Measles was still epidemic in Louisiana for the twelfth week with 162 cases listed, but was exceeded in number by 174 cases of syphilis in the weekly report. Other diseases in double figures included 64 cases of influenza, 43 of pneumonia, 41 of hookworm, 36 of chickenpox, 28 each of gonorrhea and pulmonary tuberculosis, 20 of whooping cough, 15 of typhoid fever, and 11 each of scarlet fever and diphtheria. Two cases of typhus fever occurred in Pointe Coupee Parish; a case of smallpox was discovered in St. Tammany Parish. Measles was the predominant disease reported for the thirteenth week of the year, ending April 1, when 189 cases appeared in the record. All other reported diseases fell off with the exception of typhoid fever which had 17 cases listed, and cancer of which there were 18. Other diseases included 55 cases of syphilis, 42 of pneumonia, 20 of chickenpox, 19 of pulmonary tuberculosis, and 11 each of influenza and diphtheria. There were 14 cases of typhoid fever from Orleans Parish, six of which were imported, and five from Caddo Parish. There were two cases of undulant fever, one from Calcasieu and one from St. Tammany. Six cases of tularemia were listed, three from Caddo, and one each from East Baton Rouge, Red River and St. James. A case of smallpox was discovered in Orleans Parish. Evidently the report of the cases of syphilis had accumulated because, in contrast with the 55 cases listed in the previous

week, there were 392 cases reported for the week ending April 8. Of the other diseases, measles was ahead with 151 cases, followed by 35 of pulmonary tuberculosis, 19 of influenza, 18 each of typhoid fever and chickenpox, 17 of pneumonia, 12 of cancer and 11 of diphtheria. This week the typhoid fever cases were reported from ten different parishes. Of the rarer diseases, typhus fever was discovered in Calcasieu Parish and undulant fever in Washington Parish. For the week which closed April 15, the fifteenth week of the year, syphilis led the list with 253 cases, followed by 198 of measles, 85 of influenza, 41 of pneumonia, a sharp increase in the number of cases of these two respiratory diseases, 21 of pulmonary tuberculosis, 20 of hookworm, 16 of diphtheria, 14 of malaria and cancer, 12 of scarlet fever, 11 of whooping cough and 10 each of typhoid fever and gonorrhea. A case of smallpox was reported from Webster Parish; two cases of undulant fever from Madison and Orleans, two cases of tularemia from Iberville and Red River parishes.

WOMAN'S AUXILIARY

Louisiana State Medical Society

President—Mrs. Frederick G. Ellis, Shreveport.

President-elect—Mrs. S. M. Blackshear, New Orleans.

First Vice-President—Mrs. C. A. Martin, Welsh.

Second Vice-President—Mrs. A. G. McHenry, Monroe.

Third Vice-President—Mrs. D. C. McBride, Alexandria.

Fourth Vice-President—Mrs. A. F. Hebert, New Orleans.

Treasurer—Mrs. O. C. Rigby, Shreveport.

Recording Secretary—Mrs. D. T. Milam, Monroe.

Parliamentarian—Mrs. A. A. Herold, Shreveport.

Corresponding Secretary—Mrs. C. B. Erickson, Shreveport.

Historian—Mrs. W. P. Gardiner, New Orleans.

OUR NATIONAL PRESIDENT

Mrs. Charles Tomlinson was the guest of the Louisiana Auxiliary on Good Friday in Shreveport. At a luncheon, given in her honor at the Shrine Club on Cross Lake, Mrs. Tomlinson charmed every lucky guest with her delightful wit and good humor. When she spoke quite seriously to the guests of the privileges and obligations of auxiliary membership, her words were an inspiration for all time.

HYGEIA

Louisiana, under the compelling chairmanship of Mrs. C. P. Gray of Monroe, sent 134 subscriptions to *Hygeia*. Now, as far as subscriptions go, that does not sound impressive, but to those who know Louisiana's record in *Hygeia* that is a superb achievement.

REPORT OF THE PRESIDENT

Twelve months ago when I took office as your President, the road seemed steep, but your loyal cooperation and unselfish application to duty have brought us to the end of another year—a year full of pleasures, problems and anxieties—to a better understanding and lasting friendships. If my administration has had any measure of success, it has flourished because of the constant assistance of national officers and the officers who comprised my executive board and the loyal support of the auxiliary membership as a whole. My special appreciation is given gratefully to the two former state presidents who live in Shreveport, Mrs. A. A. Herold and Mrs. R. T. Lucas, who were near enough to help and advise me when I needed them most.

For their assistance, our sincere thanks go to Dr. John H. Musser of New Orleans and Dr. Paul D. Abramson of Shreveport who formed our Advisory Board, and to Dr. P. T. Talbot, Secretary of the State Medical Society, for his help on occasions when we were in urgent need of material and information from his office.

The early work in May and June consisted in selecting councilors for the different congressional districts, and these eight actively interested and capable women served faithfully as parish advisors and assisted the Chairman of Organization in securing permission from the parish medical societies for organizing their wives into auxiliary groups, where interest was aroused. Efficient chairmen were picked for each standing committee and plans outlined for their work along the lines suggested by the National Chairman of Committees.

The national handbooks supplied by the last administration were deemed adequate for another year. The four copies of the *National News Letter* were sent each auxiliary, the larger groups being urged to pay for same, since the treasury was empty. The bill for the new auxiliaries and small auxiliaries was paid with State funds in December when some dues came in.

Due also to the depleted condition of the treasury, printed stationery was not available until September, when Dr. and Mrs. Clarence Lorio of Baton Rouge donated 1,000 sheets of paper and 750 envelopes for the use of the Auxiliary, a gift which was greatly appreciated by your officers. This stationery listed the names and addresses of all officers and was beautifully printed.

Probably the most outstanding accomplishment has been advance in organization. Mrs. Roy Carl Young, Organization Chairman, has an enviable record in seven new fully paid up parish auxili-

aries, viz: Avoyelles, Second District composed of Jefferson, St. James, St. Charles and St. John, Natchitoches, Sabine, St. Landry, Tangipahoa and Vermilion. Mrs. R. B. Wallace, Councilor for the Eighth District, was instrumental in organizing three of these new units, while Mrs. R. B. Harrison, Councilor for the Second District, Mrs. T. H. Watkins, Councilor for the Seventh District, and Mrs. A. W. Martin, Councilor for the Sixth District were responsible for one each.

I am sorry to have to report the loss of the Tri-Parish Auxiliary, due to distances separating the members. I believe a change in their plans and policies might rebuild an active group.

Doctors' Day was successfully celebrated in almost every auxiliary. Radio talks, newspaper editorials, flowers to the doctors, teas and many other tributes were given the medical profession.

The exhibits at the convention speak for the untiring efforts of the Exhibit Chairman to interest the parish auxiliaries in proudly showing their activities by means of posters or models.

The Finance Chairman had to show her ingenuity in managing a State organization on a limited budget. Her report is most interesting.

Hygeia Chairman proudly reports 134 subscriptions placed, a large increase over last year, but far below many other states. We need your cooperation there very badly.

Our donation to the Indigent Physicians' Fund this year totaled $45.00. While Orleans Parish has not sponsored the Indigent Physicians' Fund, they have contributed splendidly to a fund for widows of physicians in their parish, a most worthy cause.

Public relations work has grown and each auxiliary is beginning to realize that real public relations work is necessary if the lay public is to be kept informed on subjects vitally interesting to their welfare from the medical standpoint. Cooperating with the National and State Legislative Chairmen, the women of the auxiliaries have this year undertaken to study the present conditions in regard to socialized medicine, many of our prominent doctors giving their time to offer a course of lectures. Caddo, Calcasieu, Orleans, Ouachita and Rapides had these series of lectures.

The Press and Publicity Chairman has capably handled all material sent to her at all times, evidence of her work being found in each issue of the *New Orleans Medical and Surgical Journal*. We desire to thank the editors for their courtesy in allowing us space each month.

Programs have been varied and well balanced and program suggestions sent to all parish auxiliaries. Great stress was laid on all forms of health education and efforts were made to publicise the A.M.A. radio broadcasts over a national hook-up.

The unlimited forms of philanthropic work done by the different parish auxiliaries are worthy of high praise, but time does not permit me to single out the many activities. Needless to say, the work of the anti-tuberculosis and anti-cancer campaigns are the most prominent. Each parish president will enumerate her special work for your benefit.

The work of the Printing and Supply Chairman speaks for itself in the splendid year books covering the two years just past. These present for you a record of our aims and give a list of our officers and membership. This book like others of past years will hold its place in our history. The registration cards also have been typed under her supervision.

Our membership has not increased correspondingly with our organization work, the total this year being 504 against 483 last year. This is due to no fault of the auxiliaries nor to lack of interest, but to a change in the date of the end of the fiscal year of Orleans Parish from May until January. Last year they had 301 members, while, in the two months of their present year, time being so limited, only 165 memberships have been paid into the State.

Auxiliary meetings for the most part have been well attended and, although the smaller groups cannot support all activities, all play a remarkable part in our work as a whole. The new auxiliaries have hardly had time to develop the program they wish to carry out, but with their growing interest and enthusiasm, prospects are for splendid, active organization.

My report would not be complete without telling of my visits to the nearby auxiliaries of Ouachita, Rapides and Calcasieu. My most urgent appeal is to you to have your new president meet with you, for it will encourage her and I hope give you a little better insight into the aims and traditions for which we are striving. I also had the pleasure of visiting and representing Louisiana at the Tri-State Convention, where the Texarkana Auxiliary entertained also the Presidents of Texas and Arkansas. Much benefit was derived from this visit in helpful suggestions and comradeship. Then to climax my year, the National President, Mrs. Charles Tomlinson, came to Shreveport on April 6, where she met the State officers residing in Shreveport and the members of Caddo Auxiliary. In her address she suggested that all women of the State get behind the men in urging attendance at all the medical meetings in their own society and the State Society, as only by a united front can the Medical Society cope with the changing conditions of today. Her sincerity and graciousness charmed the group in attendance. The privilege of meeting her and discussing plans and conditions surrounding us today was inspiring in every way.

My two visits to the Rapides Parish Auxiliary were made to go over convention plans. They, as the Hostess Auxiliary, are to be congratulated upon their successful meeting, and their hospitality, I am sure, will not soon be forgotten. My sincere thanks to Mrs. H. O. Barker, Rapides Parish Presi-

dent, and the members of Rapides Auxiliary for their courtesy and for the many delightful hours I have spent with them.

Before leaving you, may I thank you one and all for your loyal support during my term of office. I shall always think of this year as one of my happiest memories. My best wishes to my successor in office and may she also enjoy the friendship and comradeship you so freely have given me.

Mrs. Frederick G. Ellis,
President.

RECENT MEETINGS

CALCASIEU PARISH

A luncheon meeting was held at the Bel Community Home, Tuesday, March 13, with Mrs. Walter Moss, presiding.

Mrs. J. Y. Garber was appointed Chairman of the Committee on Beautification of the Lake Front. Mrs. George Kreeger was appointed Chairman of the Committee on Child Welfare Work.

Mrs. Firzenreider gave a very interesting talk on the care of azaleas.

Jefferson Davis Parish entertained Calcasieu Parish doctors and their wives at Welsh, Louisiana, on "Doctors' Day," March 30, 1939. Recitals and musical numbers were presented. At 8:00 p. m. a special mention was given over the radio by the Reverend Johns, brother of the late Dr. F. M. Johns of Tulane University.

Mrs. L. L. DiGiglia,
Press and Publicity Chairman.

VERMILION PARISH

Organization of the Auxiliary to the Vermilion Parish Medical Society was completed at a meeting held Tuesday, March 28, at the home of Mrs. Robert Young in Abbeville, under the direction of Mrs. Roy Carl Young, Organization Chairman of the State Auxiliary.

Officers elected at the meeting were Mrs. Robert Young, Abbeville, president; Mrs. J. E. McClellan, Abbeville, vice-president; Mrs. Shelley Mouledous, Abbeville, secretary-treasurer; Mrs. Adolf Landry, Delcambre, chairman of press and publicity.

Mrs. Adolf Landry,
Press and Publicity Chairman.

OUACHITA PARISH

At the regular luncheon meeting there were 17 members present. Mrs. Coon, *Hygeia* chairman, gave a splendid report. The auxiliary has subscribed 100 per cent, and the magazine was placed in all the schools in Ouachita Parish, in the Y. W. C. A., Brown Paper Mill, Red Cross, and the Monroe Public Library. Ouachita Parish received honorable mention in the national *Hygeia* contest.

The program included a lecture on "Blindness" by Dr. P. L. Perot; a speech by Mrs. King Hunt, president of the P. T. A. Council, on "How the Medical Auxiliary Can Aid the P. T. A."

Mrs. R. W. O'Donnell,
Press and Publicity Chairman.

Respectfully submitted,
Mrs. R. T. Lucas,
Press and Publicity Chairman.

BOOK REVIEWS

Drug Addicts Are Human Beings: By Henry Smith Williams, M. D., B. Sc., LL. D. Washington, D. C., Shaw Publishing Company, 1938. Pp. 273. Price $2.50.

This book points out that the Harrison Act is essentially a pure revenue measure and that it, being a Federal law, has no control whatever over the practice of a profession such as medicine. But the Narcotics Bureau ignores the decisions of the Supreme Court in this matter, and assumes authority to prevent physicians from attempting to cure addicts, unless the addicts are under forced confinement. Thus, without warrant of law, a Code has been developed by subordinates in the Treasury Department (Commissioner of Internal Revenue, Deputy Commissioner of the Narcotic Division of the Prohibition Unit, Commissioner of Prohibition) and fostered in later years by the Commissioner of Narcotics.

This Code, emanating from an executive department, without legislative warrant, is unconstitutional in its essence. The result of this illegal Code is to foster and maintain the great American Billion Dollar Drug Racket. The mechanism of this is as follows: The high tax imposed has enormously reduced legitimate importation of narcotics; it has produced a great illegitimate industry: smuggling narcotics; the restrictions on the physicians' use of narcotics have resulted in another great illegitimate industry: peddling narcotics.

There are about a million addicts in the U. S. A. These people are human beings who have fallen victims to a vicious habit, but so long as they could get their dope promptly at a reasonable price, they were law abiding, useful, and reasonably happy people. The Harrison Act has made criminals of them. The price of dope is out of their reach, so these unfortunates are driven to desperation. They commit crimes in order to get their dope. Before the Harrison Act there were no federal narcotic prisoners; ten years after the

passage of the Harrison Act, one-third of all federal prisoners were narcotic offenders.

The remedy suggested is simple: to allow the Harrison Act to operate as it was designed: all victims of drug addiction, "narcotoxia," would come under medical supervision, and on prescription would be supplied, at slight cost, with whatever medicine they needed at the drug stores. Impure morphine which the dope peddler sells for a dollar a grain would be replaced by the pure product which would cost the patient only two or three cents a grain. The peddler, unable to meet such a price, would go out of business, and the great American drug racket, the billion dollar illicit industry, would cease to exist.

CLYDE BROOKS, M. D.

Spinal Anesthesia: By Louis H. Maxson, A. B., M. D. Philadelphia, J. P. Lippincott Co., 1938. Pp. 409. Price $6.50.

This is an excellent comprehensive treatise on the subject of spinal anesthesia. In a methodical order, the history, anatomic considerations, physical factors, and drugs are scrutinized. It is replete with details.

Every surgeon who uses spinal anesthesia, even though the giving of the anesthetic is assigned to the anesthetist, should certainly read this volume. Any conceivable complication, pre- and postoperative orders and the efficiency of this type of anesthesia in the various specialties is contemplated. Especially valuable and worthy of posting in the operating room are the part of chapter eight which deals with resuscitative methods and chapter eleven which considers the contraindications.

Quotations from various authorities in the field of spinal anesthesia are interspersed throughout the book and this detracts from the original point that the author was trying to make. It becomes increasingly hard to understand when the quoted authors differ among themselves.

M. LYON STADIEM, M. D.

Diseases of the Ear, Nose and Throat: By Francis L. Lederer, B. Sc., M. D., F. A. C. S. Philadelphia, F. A. Davis Company, 1938. Pp. 835, illus. Price $10.00.

Both the author and the publisher deserve the highest tribute for this masterpiece of medical literature. The text is lucid and concise. Mental gymnastics are not required for its understanding. Useful diagrams convey information quickly. Beautifully executed plates enable the reader to keep the subject matter clearly in mind. Photographic reproductions of pathologic specimens and patients form a veritable museum of clinical material.

No feature has been neglected to make this a most useful reference work for the trained specialist as well as a text for detailed study by the student. It is highly commended to both.

H. L. KEARNEY, M. D.

The Anus, Rectum and Sigmoid Colon: Harry E. Bacon, M. D. Philadelphia, J. B. Lippincott Company, 1938. Pp. 855. Price $8.50.

Recently a considerable number of textbooks dealing exclusively with diseases of the anus, rectum and colon have been published and the literature on this subject now rivals that of most specialties. Proctology has attained an important position as a specialty in medicine. This is evidenced by the number and size of textbooks which have recently appeared on this subject, the formation of special medical societies for the discussion of proctologic subjects and the appointment to teaching institutions and hospital staffs of men who limit their work to that particular field of medicine.

This book is excellent in every respect. It is well illustrated and contains a complete bibliography. The subject matter is discussed clearly and no details have been omitted. It is well arranged and classifications have been devised wherever possible in order to clarify certain subjects.

This is an excellent book and is worthy of praise. It can be used as a textbook or a reference book for the general practitioner and the specialist.

WARREN HÉBERT, M. D.

Handbook on Diseases of Children: By Bruce Williams, M. D., M. R. C. P. Lond. Baltimore, William Wood, 1936. Pp. 329. Price $4.00.

This small volume attempts to give a brief outline of the etiology, diagnosis, and treatment of the commoner diseases of children. The discussions are entirely too brief to be used as a general textbook for reference in regard to pediatric problems. The book would be of little value to a pediatrician; however, as a ready condensed handbook for the general practitioner, I believe it would serve its purpose better. The subject matter is very nicely organized. The outlines of therapy are not as complete as would be generally desired. The subject of artificial feeding and dietetics is too general to be of much value.

ROY E. DE LA HOUSSAYE, M. D.

Treatment by Diet: By Clifford J. Barborka, M. D., B. S., M. S., D. Sc., F. A. C. P. Philadelphia, J. B. Lippincott Co., 1937. Pp. 600. Price $5.00.

This revised third edition represents an effort to bring the second edition up to date by adding a discussion of the clinical aspects of the vitamins, the use of protamine zinc insulin, and a broad consideration of the obesity problem. Those familiar with the earlier editions need not be reminded of the concise, easy style in which the matter is pre-

sented. The excellent form of approach has been retained. All of the really major dietary problems have been adequately treated with a keen regard to their relative importance.

The text is to be highly recommended for the student, practitioner and dietitian.

R. H. BAYLEY, M. D.

The Practice of Medicine: By Jonathan Campbell Meakins, M. D., LL. D. St. Louis, C. V. Mosby Co., 1938. Pp. 1413. Price $12.50.

It is not very long ago that this reviewer had occasion to review the first edition of this extremely good book. Noteworthy at that time was the comment concerning the invaluable information obtained from the numerous illustrations,—a departure from the usual textbook of medicine.

The introduction to the practice of medicine as contained in Chapter I is a magnificent presentation of the relationship of patient and physician; of the value and significance of symptoms and signs and of the diagnosis, prognosis and treatment of disease. Another very important and essential feature of the book is the effort to explain the various subjective and objective findings in specific diseases.

This second edition, so quickly published, is sufficient proof of a splendid task by one of the foremost clinicians and investigators of our day. In this second edition an effort has been made to correct the errors inherent in a first edition. Additions, alterations and deletions in text and illustrations will be found in an effort towards clarification and in an attempt to bring the medical data up to date.

I. L. ROBBINS, M. D.

Diseases of the Chest and the Principles of Physical Diagnosis: By George W. Morris, A. B., M. D., and H. R. M. Landis, A. M., M. D., Sc. D. Philadelphia, W. B. Saunders Co., 1938. Pp. 1019. Price $10.00.

When a book has attained a sixth edition there is very little that one need say that has not already been noted often by many reviewers. Especially is this true when the book is one that has become a classic in its field. All that needs to be noted is that this great, authoritative volume has been completely revised to bring it "abreast of the times." The chapter on the electrocardiograph has been rewritten by Dr. Thomas M. McMillan and it has been well done.

I. L. ROBBINS, M. D.

Diseases of the Nose, Throat and Ear: By W. Wallace Morrison, M. D. Philadelphia, W. B. Saunders Co., 1938. Pp. 674. Price $5.50.

A concise and practical book written particularly for the undergraduate medical student and general practitioner. A brief review of essential surgical anatomy is presented, followed by a consideration of the physiology of the parts concerned. Pathologic changes are described and the modern viewpoint is discussed with clarity and precision. Those treatment methods which have stood the test of time are preferably discussed and the simpler operations are considered fully.

F. E. LEJEUNE, M. D.

Classic Descriptions of Diseases: By Ralph H. Major, M. D. Springfield, Ill., Chas. C. Thomas, 1939. Pp. 727. Price $5.50.

"That is a good book which is opened with expectation, and closed with profit." Major's is such a book. We open it with the expectation of finding worthwhile excerpts from the classical descriptions of diseases; we find them, and close the book with profit. We can unhesitatingly refer students to it, knowing full well that they will be enriched by the original descriptions found therein. Teachers have increasingly followed Osler's example in referring students to original sources for "to find a a new idea, seek out an old account; the old ideas will be found in the new accounts."

The value of this second edition is increased by the correction of the few errors contained in the former edition, by the addition of new material and the amplification and improvement of a number of the biographic sketches. This book gives both teacher and student ready access to original sources. The abundance of carefully selected portraits adds to the appeal and value of this excellent and serviceable book.

B. B. WEINSTEIN, M. D.

Cancer: Its Diagnosis and Treatment: By Max Cutler, M. D., and Franz Buschke, M. D. Philadelphia, W. B. Saunders Co., 1938. Pp. 757. Price $10.00.

This is a well written, well organized, and well illustrated book of six hundred and eighty-seven pages of text. The literature has been adequately reviewed and interpreted in the light of the authors' not inconsiderable experience, and a useful bibliography has been compiled.

Malignant tumors are discussed in relation to the tissue from which they originate as well as to their geographic location in the body. The signs and symptoms, the various methods of making the diagnosis, the relative radio-sensitivity of the tumor and the surrounding tissues, as well as a fair evaluation of the relative therapeutic merits and disadvantages of surgery and radiation are given for each of the tumors which occur in the human body.

It is a book which will undoubtedly be useful both to the medical neophyte as a comprehensive introduction to malignant neoplasms, as well as to the more experienced practitioner as a source of concise information about a specific malignant tumor.

WOOLFOLK BARROW, M. D.

A Manual of Practical Tropical Sanitation: By J. Balfour Kirk. Baltimore, William Wood and Co., 1937. Pp. 300. Price $3.00.

This book provides ample, yet concise information pertaining to problems of health in tropical areas. It is primarily intended for sanitary inspectors, but, since it is written in plain language and not in technical terms, managers, engineers and even laymen will find valuable information on the prevention of diseases in regions where sanitary systems are not readily provided.

Chapters on elementary biology, anatomy and physiology are followed by a consideration of communicable diseases, their cause, symptoms, spread and prevention. General hygiene is taken up in regard to disinfection, disposal of sewage and refuse, housing, food and drink.

A few minor errors were noted. On page 48, amebic dysentery is stated to show no signs of epidemicity, and yet epidemics do occur. Trichinellae (p. 198) do not lay eggs and trichinous pork cannot be specifically recognized by the naked eye.

WILLI SAWITZ, M. D.

Surgical Anatomy: By C. Latimer Callander, A. B., M. D., F. A. C. S. Philadelphia, W. B. Saunders, 1939. Pp. 858. Price $10.00.

In preparing the second edition of this outstanding volume on surgical anatomy, the author has deleted obsolete and extraneous material from the first edition and has so rearranged the illustrations that, even with the new text and many new illustrations, the book is smaller than the first edition.

The surgical anatomy of importance in the performance of the newer operations is included and in many instances is presented in such a way as to constitute a description of the operative surgical procedures applied to the anatomic structures.

AMBROSE H. STORCK, M. D.

Feminine Hygiene in Marriage: By A. F. Niemoeller, A. B., M. A., B. S. New York City, Harvest Press, 1938. Pp. 155. Price $2.00.

This volume of 155 pages, written by a man experienced in matters of sex, is published as a guide to married women in matters of hygiene concerning their sexual organs. It consists of a general discussion of the female organs, their functions and various disorders, including the diseases prevalent among married women during their active sexual life with special emphasis upon irregularities of menstruation, venereal disease and pregnancy.

A foreword is given by a urologist formerly with the United States Government. The book is written in terms understandable by the laity but is rather difficult to follow clearly throughout.

The author has a fairly good lay conception of the pathology and physiology of female genitalia but many of his medical statements are open to question. While he vigorously urges the readers not to accept the information set forth as didactic from a medical point of view, he gives the reader the impression that the advice he offers is thoroughly sound in this respect. And, indeed, at times such admonition might be harmful should the reader follow his instructions thoroughly.

There is too much home treatment of various disabling conditions presented in this book for widespread usage, and, while the reader is repeatedly referred to the physician if some complication arises, it seems to the reviewer that too much reliance on the diagnosis is left to the reader when management by a physician should be instituted at the onset of the disorder in question. In one passage, for example, the pregnant woman is told that she may be adequately delivered by a midwife of good reputation but that "if the case promises to be a difficult one, a doctor or even a specialist should be employed." It is difficult to see how even a well educated woman can make this decision as to the ultimate ease or difficulty of delivery.

Because of this and similar discrepancies, the volume, in the reviewer's opinion, cannot be recommended for general use.

JOHN CONANT WEED, M. D.

The Pituitary Gland: An Investigation of the Most Recent Advances: Proceedings of the Association for Research in Nervous and Mental Diseases. Baltimore, Williams & Wilkins Co., 1938. Pp. 764. Price $10.00.

This volume contains the proceedings of the Association for Research in Nervous and Mental Diseases, December 28-29, 1936. It is divided into three portions. In Section 1 is an exhaustive treatise on the anatomy and cytology of the pituitary gland. The plates, halftone and colored, are of the highest quality and depict clearly the gross relationship or microscopic structure of the pituitary gland in man and animal.

Section 2 is devoted to the physiology of the hypophysis. Each hormone elaborated by this gland is described by accepted authorities in this field, as well as the relation of the gland to other functions and parts of the body.

Section 3 is devoted to the relationship of the pituitary gland to certain definite clinical entities. Diagnosis and treatment of these conditions are described in detail.

A most thorough, exhaustive description of the pituitary and its secretions is contained in this volume of 724 pages. It is recommended very highly to gynecologists, research workers and internists and is an excellent reference volume for any library.

CONRAD G. COLLINS, M. D.

PUBLICATIONS RECEIVED

P. Blakiston's Son & Co., Inc., Philadelphia: English, German, French, Italian, Spanish Medical Vocabulary and Phrases by Joseph S. F. Marie.

Paul B. Hoeber, Inc., New York City: Student's Handbook of Surgical Operations by Sir Frederick Treves, Bart., G. C. V. O., C. B., LL. D., F. R. C. S., sixth edition, revised by Cecil P. G. Wakeley, D. Sc., F. R. C. S., F. R. S. E., F. A. C. S. (Hon.), F. R. A. C. S., Fellow of King's College, London.

Lea & Febiger, Philadelphia: The Principles and Practice of Ophthalmic Surgery by Edmund B. Spaeth, M. D.

The C. V. Mosby Company, St. Louis: The Vaginal Diaphragm by Le Mon Clark, M. S., M. D.

W. B. Saunders Company, Philadelphia: Gonorrhea in the Male and Female by P. S. Pelouze, M. D. Clinical Biochemistry by Abraham Cantarow, M. D., and Max Trumper, Ph. D.

The Williams and Wilkins Company, Baltimore: Failure of the Circulation by Tinsley Randolph Harrison, M. D. Angina Pectoris by Heyman R. Miller, M. D. The Clinical Diagnosis of Swellings by C. E. Corrigan, B. A., M. D., F. R. C. S. (Eng.).